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Declining DoD procurement outlays will cause a loss of business by defense contractors that may affect the future capability of the defense industrial base to build advanced weapon systems in the quantities required and at a reasonable price. A particular concern is the health of the subcontractor industrial base, which provides critical parts and technologies to prime contractors and is less visible than major prime contractors.

This report presents a method to assess the impact of DoD budget cuts on both prime contractors and their first-tier subcontractors. The method considers supplier-contractor relationships, by weapon system, and builds a "time profile" of revenue for each prime contractor and subcontractor depending on the outlook for each program in which they participate. This report illustrates that method for the aircraft sector. However, the model could be extended to include the majority of programs in all commodity sectors. The model could then be used to assess the impact of its budget decisions on any particular sector and/or on the entire industrial base.

For the major aircraft systems we studied, our model indicates significant economic turmoil underlying what, in the aggregate, is a relatively stable defense industry sector. Almost certainly, this turmoil contains a mix of normal market shifts that DoD need not be concerned about, as well as potentially critical resource losses of production plants or labor skills that DoD should monitor. While the various findings we present are not conclusive for all defense industries (because of the limited data available to our model), they illustrate the usefulness of our model as an analytical tool and do warn of a significant realignment in the aircraft industry.

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A Method for Industrial Base Analysis: An Aerospace Case Study

DC201RD3

Eric L. Gentsch
Donna J.S. Peterson

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Executive Summary

Department of Defense procurement outlays are expected to decline 29 percent in real terms between 1992 and 1997. This decline follows the 24 percent decrease that occurred from 1987 to 1992. The DoD is concerned that the loss of business by defense contractors may affect the future capability of the defense industrial base to build advanced weapon systems in the quantities required and at a reasonable price. A particular concern is the health of the subcontractor industrial base, which provides critical parts and technologies to prime contractors and is less visible than major prime contractors.

The Logistics Management Institute (LMI) developed a method to assess the impact of DoD budget cuts on both prime contractors and their first-tier subcontractors. Our method considers supplier-contractor relationships, by weapon system, and builds a "time profile" of revenue for each prime contractor and subcontractor depending on the outlook for each program in which they participate. This report illustrates that method for the aircraft sector. However, if the LMI model was extended to include the majority of programs in all commodity sectors, DoD could assess the impact of its budget decisions on any particular sector and/or on the entire industrial base.

We implemented our method as a microcomputer-based model and populated it with data about 15 major types of aircraft. Two hundred sixty-two plants representing 181 companies participated in those 15 aircraft programs as prime contractors and major subcontractors. In FY91, those aircraft systems had a combined R&D, domestic procurement, and foreign sales revenue-to-industry volume of $14.5 billion. We project the corresponding volume for FY97 to be $14.2 billion. Of these volume totals, we were able to attribute $12.4 billion and $12.7 billion, respectively, to specific contractor plants.

Individual contractors will feel a wide range of impacts. Most plants will either do very well or very poorly between 1991 and 1997. The change in revenue ranges from losing *all* DoD-related business revenue (based on the 15 aircraft systems considered in our model) to increasing more than tenfold the DoD-sponsored aircraft sales revenue. Even plants that are diversified across aircraft systems will experience significant change over that period. The same picture emerges when

the results are aggregated from a plant basis to a company basis (many companies have more than one plant location).

Similar results emerge when we view the change in revenues on a commodity basis. The sales revenue generated by 13 of 27 commodity groups we identified will decrease during the period 1991 through 1997. These 13 commodity groups should be examined further for possible loss of domestic capabilities that could be critical to DoD.

The model also provides a view of impacts by location. The 261 aircraft production plants are located in 34 states and 5 foreign countries. About one-half of the plant locations will lose revenue and one-half of the plant locations will gain revenue by 1997. So, although the total revenue stream for the aircraft systems we modeled changes little, the economic impact on a location's work force and supporting community may be great due to shifting DoD demand.

Our conclusions must be tempered by the fact that many production plants may serve aircraft systems that are not currently represented. Our model can easily accommodate data from other systems and other contractors – should DoD wish to expand this type of analysis to additional industrial sectors. Also, contractor participation in any one weapon system changes over time, and revenue streams flowing to industry result from complex budget authority, fund outlays, and subcontracting arrangements.

In summary, we observe similar economic impact patterns whether our quantitative findings are viewed by production plant, by company, or by commodity. For the major aircraft systems we studied, our model indicates significant economic turmoil underlying what, in the aggregate, is a relatively stable defense industry sector. Almost certainly, this turmoil contains a mix of normal market shifts that DoD need not be concerned about, as well as potentially critical resource losses of production plants or labor skills that DoD should monitor. While the various findings we present are not conclusive for all defense industries (because of the limited data available to our model), they illustrate the usefulness of our model as an analytical tool and do warn of a significant realignment in the aircraft industry.

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A Method for Industrial Base Analysis: An Aerospace Case Study

BACKGROUND

This report describes an industrial base model developed by the Logistics Management Institute (LMI) that combines the strengths of several different modeling techniques while mitigating several of their individual weaknesses. The model focuses on a contractor's business base and how it is affected by DoD budget decisions. We use the military aircraft industrial base as an example. Existing industrial base analyses are program-based, company/ industry-based, or technology-based. Program-based analyses examine the DoD contractors in a single weapon system's work breakdown structure (WBS). These analyses help identify factors that may affect a program's cost, schedule, and performance. However, they are not adequate for broad analysis because they focus on the program in isolation, not on the economic base as a whole. That is, program-based analyses treat each contractor as working on one program only.

Company-based and industry-based models evaluate the viability of individual firms or groups of firms within a given industry. Single company studies usually occur in connection with sole-source contractual issues. Company-based models tend to view the company only as a sole-source supplier. They are valid for answering specific questions about a critical military item but, like the program-based models, their focus is too narrow to be used as a general analytical tool. Industry-based models, such as the Department of Commerce's "Census of Manufactures" and related economic input/output models, report on the sales volume, resource mix, and productivity by industry sector. Input-output models and most of the industry data published by the Department of Commerce are too aggregated to isolate the impacts on the defense industrial base. Few industries produce only defense goods; thus, defense products are mixed with commercial products within an industry as defined in those models. Thus, it is often impossible to isolate specific impacts on the defense portion of the industry.

Technology-based models usually focus on a single component or process technology that is common to a number of companies or industries. Recent studies in flat panel displays and infrared focal plane arrays have been used to evaluate and allocate Government R&D funding. Since technology models concentrate on the feasibility of a specific technology, they often ignore the economic issues.

LMI developed an industrial base model that combines features of each of the other models. More than any of the current models described above, LMI's approach captures cross-program effects. We first developed the model in 1990 for Secretary Cheney's "Major Aircraft Review"; it was revised and expanded for the Defense Conversion Commission. We demonstrate the model's potential by analyzing major aircraft acquisition programs. The approach is extendible to an arbitrary number of programs and an arbitrary number of companies, limited in theory only by the availability of data. In practical terms, the model could be extended using already collected Government data to include the prime contractors and their first-tier subcontractors for all DoD major acquisition programs.

Next, we present our findings. Then we describe our approach, that is, how the model is constructed. Then we present the data now used in the model. We discuss the assumptions behind the model, limitations of the current approach, and extensions that would make the model more widely applicable. Appendix A is a technical description of the model. Appendix B contains tables showing acquisition scenarios and economic impacts.

FINDINGS

Most plants participate in only a single aircraft system; thus, they lack a diversified military aircraft business base. Figure 1 shows the distribution of plants' participation in aircraft programs. Only one-quarter of the plants serve more than 1 of the 15 aircraft systems in the data base. Only one plant serves 8 of the 15 aircraft systems in the data base. No plant serves more than 8 systems. While these plants might serve weapon systems not included in the data base, the data indicate that many of DoD's plant locations are economically tied to only a few systems at most.[1]

[1]Our data base has more subcontractors for the B-2 aircraft program than for any other, and most of them participate only in the B-2 program. We experimented with excluding the B-2 data (on the theory that they might bias the results), but the results were unchanged.

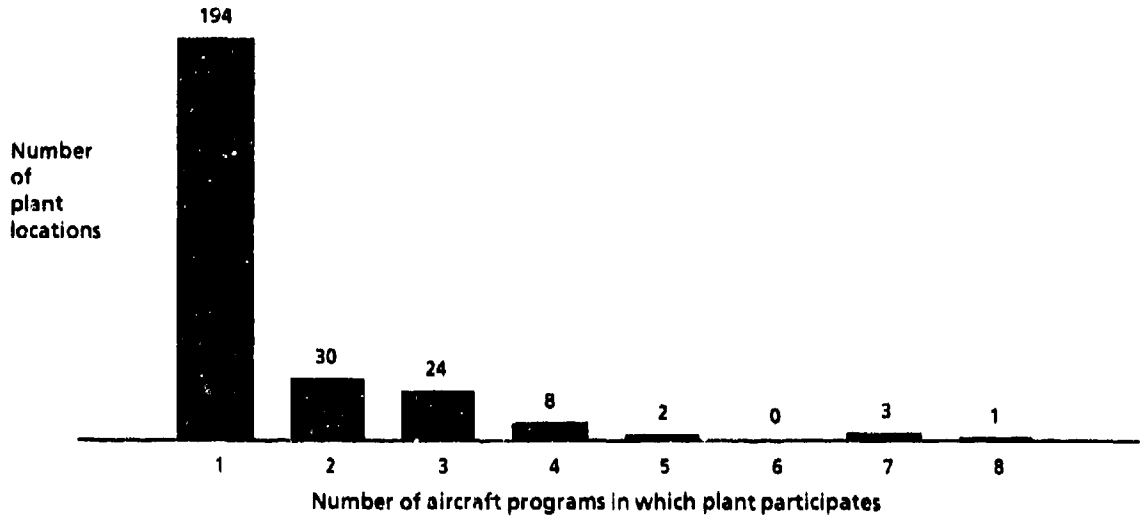
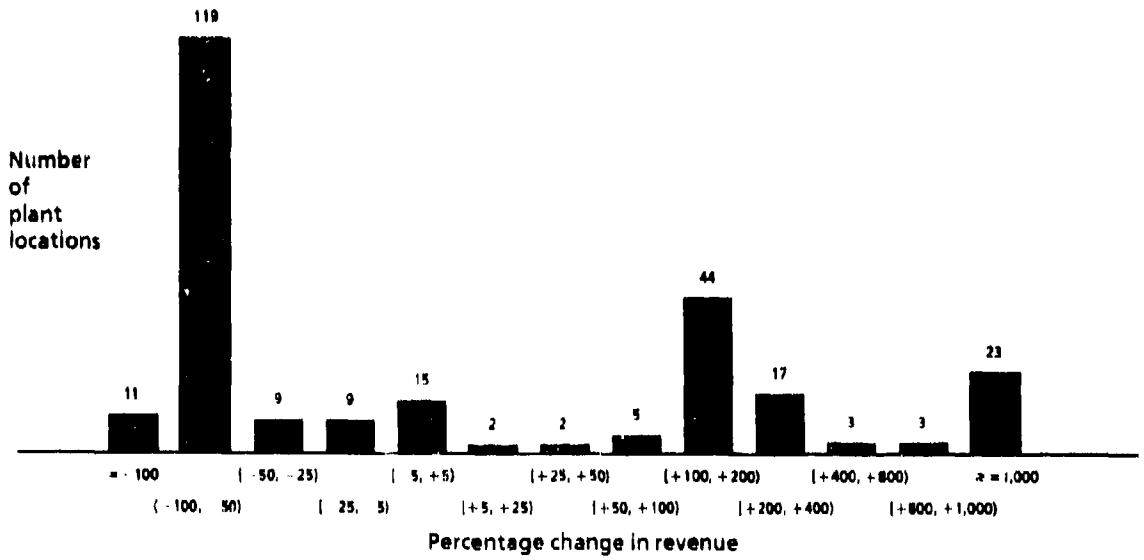


Figure 1
Distribution of Aircraft System Program Participation Between 1991 and 1997, by Plants

We analyze the economic impact of the acquisition scenario by comparing the plants' revenue in FY91 to FY97. Figure 2 shows how the change in revenue between 1991 and 1997 is distributed among the plants. Plants tend to do either very poorly or very well over the period.



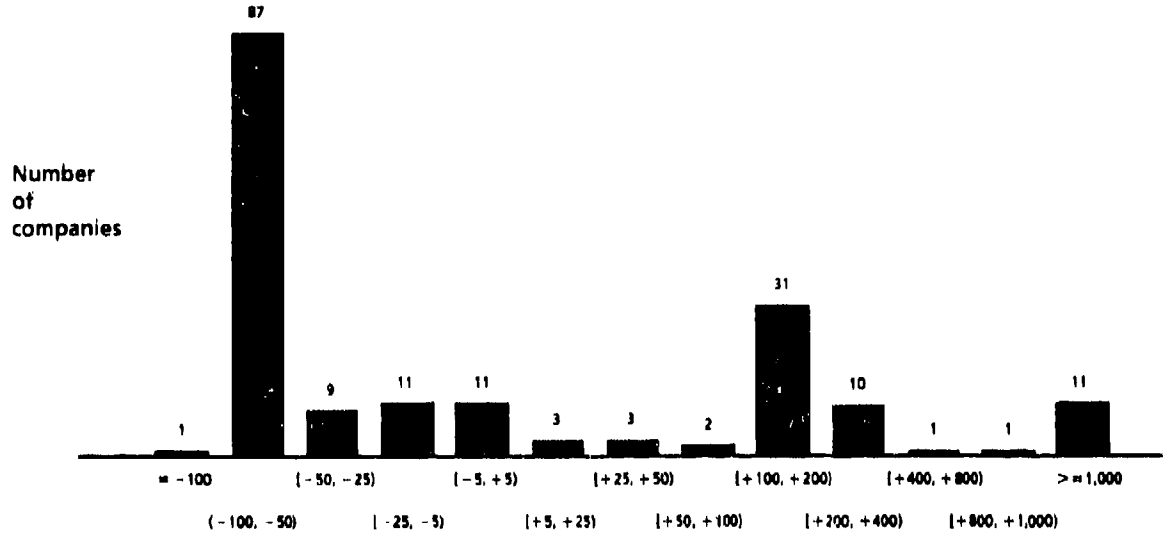
Note: For the "percentage change in revenue" intervals, a bracket [includes the range's bound and a parenthesis) excludes the boundary. For example, the bar labeled [−5, +5) includes values in the range from −5 percent inclusive to +5 percent exclusive (i.e., +4.99 . . . percent).

Figure 2
Distribution of Change in Revenue Between 1991 and 1997, by Plant Location

The total revenue attributable to the 262 plants in the model changes from $12,415 million in 1991 to $12,720 million in 1997, an increase of 2.5 percent (in current dollars). Even so, by 1997, 11 plants (4 percent) lose *all* business associated with the systems in the data base. Twenty-three plants (9 percent) experience revenue increases greater than tenfold. Of all 261 plants, only 37 plants, (14 percent) lie in the interval between having business cut in half and having revenue doubled. One hundred and thirty plants (50 percent) lose more than 50 percent of their revenue. The remaining 95 plants (36 percent) gain by more than 50 percent in new business revenue.

Diversification across aircraft programs does not necessarily protect a plant's revenue base. The correlation coefficient between the number of aircraft systems in which a plant participates and its change in revenue is -0.10 (where ± 1.00 indicates perfect correlation) for the full data base and -0.13 with the B-2 aircraft data removed – there is no correlation between participation and change in revenue. Of the 130 plants projected to lose more than half their revenue, 110 serve just one system in the data base. But, one of the plants experiencing such a loss serves seven aircraft systems, four losing plants serve four systems, and four losing plants serve three systems. Conversely, participation in a single aircraft system program does not portend a loss of revenue. Seventy-four of the 95 plants projected to gain more than 50 percent serve only one aircraft system. Working on a single aircraft program does make a plant vulnerable in the sense that there is no safety net: the plant will either do very well or very poorly.

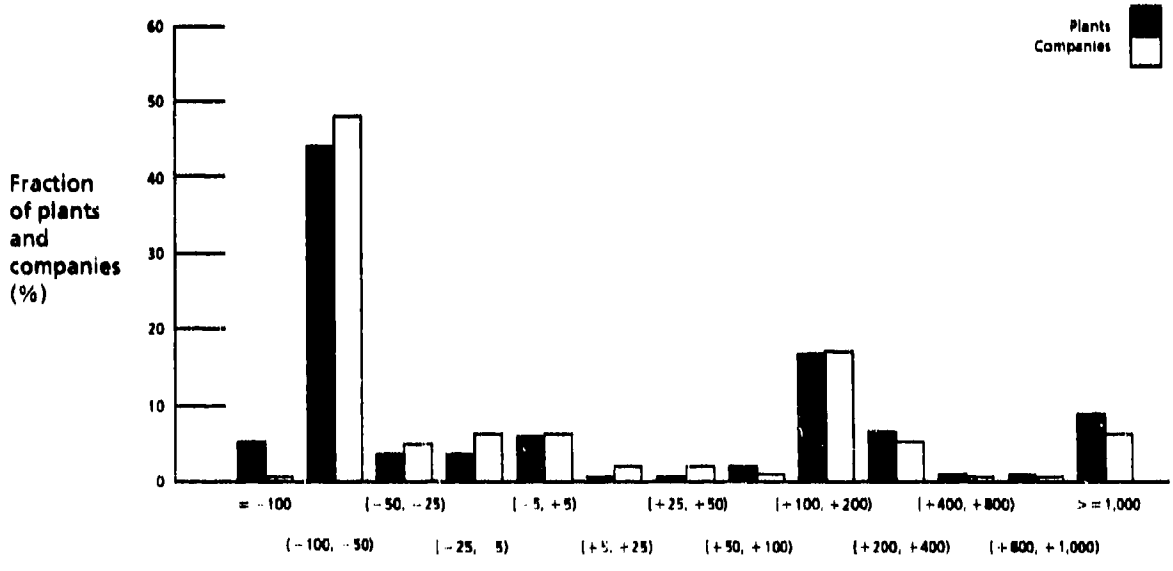
When we view economic impact on a company basis (aggregating across each company's plants), the profile is similar. Figure 3 shows the change in revenue for the 181 distinct companies in our data base. While we would expect this aggregation to dampen the change over time, no pattern is discernible. The graph shows a profile very much like Figure 2. When we divide each bar on the two graphs by the respective total for each graph (262 plants and 181 companies), we obtain profiles that are scaled to 100 percent and that are directly comparable. As Figure 4 shows, the two graphs track very closely. Therefore, multidivision and multiplant companies are not exempt from the large revenue shifts (both up and down) that we expect to see in single-plant companies.



Note: For the "percentage change in revenue" intervals, a bracket [includes the range's bound and a parenthesis) excludes the boundary. For example, the bar labeled [−5, +5) includes values in the range from −5 percent inclusive to +5 percent exclusive (i.e., +4.99 . . . percent).

Figure 3

Company-Level Change in Revenue



Note: For the "percentage change in revenue" intervals, a bracket [includes the range's bound and a parenthesis) excludes the boundary. For example, the bar labeled [−5, +5) includes values in the range from −5 percent inclusive to +5 percent exclusive (i.e., +4.99 . . . percent).

Figure 4

Comparison of Plant-Level and Company-Level Change in Revenues

While the company bars in Figure 4 are consistently somewhat higher than the plant bars between −50 percent and +50 percent, indicating some damping, no overall difference between the two graphs is evident.

Tables 1 and 2 summarize the economic impact by WBS. Table 1 is sorted by the WBS code and Table 2 is sorted by impact. The WBS category appearing most heavily impacted, namely, support services, reflects incomplete data (only one plant reported, yet all systems require support) and does not indicate a true problem. The other WBS categories that are hurt, from power and conditioning to flight controls, are well-populated in the data base and may indicate true sector distress.

Tables 3 and 4 summarize the economic impact by location. These tables show that the plants in the data base are located in 34 states and 5 foreign countries. Even though the total revenues flowing to industry from these systems will decrease slightly in constant dollars between 1991 and 1997, the local economic disruption may be greater due to the change in mix of aircraft purchased. The results indicate a net flow of jobs from half of the states in the data base into the other half of the states.

In general, findings suggesting that a given plant will lose all business or that a given commodity will no longer be manufactured should be treated as warnings that require further investigation. These warnings will help to "narrow the field" and identify candidate areas of possible economic duress or critical technology gaps. We must remember that programs not included in the model or related commercial programs could be supporting any given plant and could be sustaining critical commodities.

In summary, we observe similar economic impact patterns whether our quantitative findings are viewed by plant, by company, by commodity, or by location. For the major aircraft systems we studied, our model indicates significant economic turmoil underlying, what in the aggregate, is a relatively stable defense industry sector. Almost certainly, this turmoil contains a mix of normal market shifts that DoD need not be concerned about, as well as potentially critical resource losses of plants or labor skills, which DoD should manage. While the various findings we present are not conclusive for all industries (because of the limited data available to our model), they illustrate the usefulness of our model as an analytical tool and do warn of a significant realignment in the aircraft industry.

TABLE 1
Change in Revenue, Summarized by WBS

WBS code	WBS	Number of plant locations	FY91 revenue ($M)	FY97 revenue ($M)	Change in revenue (percent)	Number of plants losing all aircraft revenue
1	Airframe	10	6,436.09	6,917.05	7.47	0
1.1	Fuselage	8	1,008.58	625.71	−37.96	0
1.2	Wings	3	4.57	14.04	206.95	0
1.3	Control surfaces	2	10.81	30.49	182.19	0
1.4	Flight controls	18	120.08	116.98	−2.59	0
1.5	Landing gear	9	49.08	75.77	54.37	0
1.6	Power and conditioning	23	288.14	148.48	−48.47	0
1.7	Cockpit	18	149.75	135.50	−9.52	0
1.8	Other airframe	27	124.35	70.46	−43.33	1
2	Avionics	4	114.52	151.96	32.69	0
2.1	Communications	14	154.07	190.69	23.77	1
2.2	Navigation/ guidance	16	345.45	188.56	−45.42	3
2.3	Fire control	18	410.64	916.26	123.13	0
2.4	Penetration aids	7	108.36	144.72	33.56	0
2.5	Reconnaissance equipment	6	126.33	498.77	294.81	2
2.6	Automatic flight controls	14	171.85	134.34	−21.83	1
2.7	Anti-submarine warfare	3	4.22	9.02	114.05	0
2.8	Other avionics	48	754.69	461.59	−38.84	1
3.1	Propulsion unit	6	1,841.57	1,691.92	−8.13	0
3.2	Other propulsion	17	93.65	64.33	−31.31	2
4.1	Armament	2	37.85	32.89	−13.10	0
4.2	Weapons delivery equipment	4	6.34	18.47	191.30	0
4.4	Other weapons	7	12.13	7.90	−34.86	0
5.1	Training	1	2.94	3.03	3.07	0
5.2	Equipment	8	34.28	68.75	100.57	0
5.3	Services	1	4.59	1.57	−65.78	0
5.5	Other support	1	0.37	0.38	3.07	0

TABLE 2

Change in Revenue, Summarized by WBS and Sorted by Change in Revenue

WBS code	WBS	Number of plant locations	FY91 revenue ($M)	FY97 revenue ($M)	Change in revenue (percent)	Number of plants losing all aircraft revenue
5.3	Services	1	4.59	1.57	−65.78	0
1.6	Power and conditioning	23	288.14	148.48	−48.47	0
2.2	Navigation/ guidance	16	345.45	188.56	−45.42	3
1.8	Other airframe	27	124.35	70.46	−43.33	1
2.8	Other avionics	48	754.69	461.59	−38.84	1
1.1	Fuselage	8	1,008.58	625.71	−37.96	0
4.4	Other weapons	7	12.13	7.90	−34.86	0
3.2	Other propulsion	17	93.65	64.33	−31.31	2
2.6	Automatic flight controls	14	171.85	134.34	−21.83	1
4.1	Armament	2	37.85	32.89	−13.10	0
1.7	Cockpit	18	149.75	135.50	−9.52	0
3.1	Propulsion unit	6	1,841.57	1,691.92	−8.13	0
1.4	Flight controls	18	120.08	116.98	−2.59	0
5.1	Training	1	2.94	3.03	3.07	0
5.5	Other support	1	0.37	0.38	3.07	0
1	Airframe	10	6,436.09	6,917.05	7.47	0
2.1	Communications	14	154.07	190.69	23.77	1
2	Avionics	4	114.52	151.96	32.69	0
2.4	Penetration aids	7	108.36	144.72	33.56	0
1.5	Landing gear	9	49.08	75.77	54.37	0
5.2	Equipment	8	34.28	68.75	100.57	0
2.7	Anti-submarine warfare	3	4.22	9.02	114.05	0
2.3	Fire control	18	410.64	916.26	123.13	0
1.3	Control surfaces	2	10.81	30.49	182.19	0
4.2	Weapons delivery equipment	4	6.34	18.47	191.30	0
1.2	Wings	3	4.57	14.04	206.95	0
2.5	Reconnaissance equipment	6	126.33	498.77	294.81	2

TABLE 3
Change in Revenue by Location

Location	Number of plant locations	FY91 revenue ($M)	FY97 revenue ($M)	Change in revenue (percent)	Number of plants losing all aircraft revenue
United States					
Alabama	1	1.62	4.54	181.11	0
Arizona	10	107.61	389.99	262.40	0
California	67	2,753.93	2,711.34	−1.55	1
Colorado	6	37.25	3.62	−90.27	2
Connecticut	24	1,316.33	641.93	−51.23	1
Florida	6	76.79	160.81	109.40	0
Georgia	3	251.00	703.73	180.37	1
Iowa	4	39.42	32.85	−16.67	1
Illinois	6	113.37	66.04	−41.74	0
Indiana	5	45.90	45.52	−0.83	0
Kansas	2	5.46	13.03	138.59	0
Kentucky	1	0.01	0.00	−65.78	0
Massachusetts	13	728.20	1,167.51	60.33	0
Maryland	6	271.36	370.55	36.55	0
Michigan	6	80.17	63.48	−20.82	0
Minnesota	9	33.10	98.68	198.15	0
Missouri	3	1,829.57	2,518.83	37.67	0
Mississippi	1	1.95	5.49	181.11	0
North Carolina	1	0.19	0.38	103.21	0
New Hampshire	7	100.31	385.93	284.75	0
New Jersey	14	52.80	32.30	−38.83	0
New Mexico	1	64.68	34.97	−45.92	0
New York	37	824.55	484.37	−41.26	3
Ohio	11	386.52	139.71	−63.85	1
Oklahoma	1	5.41	15.20	181.11	0
Pennsylvania	2	67.01	69.69	4.00	0
Rhode Island	1	0.27	0.76	181.11	0
Tennessee	1	1.11	3.40	206.95	0
Texas	16	2,153.51	1,664.57	−22.70	0
Utah	1	1.03	0.35	−65.78	0
Virginia	4	17.92	16.10	−10.20	0
Vermont	3	38.72	33.77	−12.79	0
Washington	6	931.19	735.25	−21.04	0
Wisconsin	2	2.39	1.84	−23.08	0
Foreign country					
Canada	8	33.59	84.90	152.72	0
Germany	1	0.08	1.18	1,301.65	0
Israel	2	20.53	8.24	−59.86	0
Italy	1	16.53	0.00	−100.00	1
United Kingdom	3	3.43	7.30	113.04	0
Unknown[a]	1	0.49	1.49	206.95	0

[a] We could not determine the location of this plant.

TABLE 4

Change in Revenue by Location, Sorted by Change in Revenue

Location	Number of plant locations	FY91 revenue ($M)	FY97 revenue ($M)	Change in revenue (percent)	Number of plants losing all aircraft revenue
Italy	1	16.53	0.00	−100.00	1
Colorado	6	37.25	3.62	−90.27	2
Kentucky	1	0.01	0.00	−65.78	0
Utah	1	1.03	0.35	−65.78	0
Ohio	11	386.52	139.71	−63.85	1
Israel	2	20.53	8.24	−59.86	0
Connecticut	24	1,316.33	641.93	−51.23	1
New Mexico	1	64.68	34.97	−45.92	0
Illinois	6	113.37	66.04	−41.74	0
New York	37	824.55	484.37	−41.26	3
New Jersey	14	52.80	32.30	−38.83	0
Wisconsin	2	2.39	1.84	−23.08	0
Texas	16	2,153.51	1,664.57	−22.70	0
Washington	6	931.19	735.25	−21.04	0
Michigan	6	80.17	63.48	−20.82	0
Iowa	4	39.42	32.85	−16.67	1
Vermont	3	38.72	33.77	−12.79	0
Virginia	4	17.92	16.10	−10.20	0
California	67	2,753.93	2,711.34	−1.55	1
Indiana	3	45.90	45.52	−0.83	0
Pennsylvania	2	67.01	69.69	4.00	0
Maryland	6	271.36	370.55	36.55	0
Missouri	3	1,829.57	2,518.83	37.67	0
Massachusetts	13	728.20	1,167.51	60.33	0
North Carolina	1	0.19	0.38	103.21	0
Florida	6	76.79	160.81	109.40	0
United Kingdom	3	3.43	7.30	113.04	0
Kansas	2	5.46	13.03	138.59	0
Canada	8	33.59	84.90	152.72	0
Georgia	3	251.00	703.73	180.37	1
Alabama	1	1.62	4.54	181.11	0
Mississippi	1	1.95	5.49	181.11	0
Oklahoma	1	5.41	15.20	181.11	0
Rhode Island	1	0.27	0.76	181.11	0
Minnesota	9	33.10	98.68	198.15	0
Tennessee	1	1.11	3.40	206.95	0
Unknown[a]	1	0.49	1.49	206.95	0
Arizona	10	107.61	389.99	262.40	0
New Hampshire	7	100.31	385.93	284.75	0
Germany	1	0.08	1.18	1,301.65	0

[a] We could not determine the location of this plant.

APPROACH

The Model

LMI's model is based on contractor participation across acquisition programs. We identify companies by plant location, giving a geographic picture in addition to an industry view. A "plant location" (henceforth simply a "plant") refers to a facility or facilities that a company operates in a given city. We assign each plant a WBS code, which indicates the type of product made at that location. Plants may be assigned multiple codes if they produce several products. The product designation can be aggregated to an industry.

Our model follows a spreadsheet format and comprises several data blocks, or matrices, some of which are required as input and others which are calculated. Appendix A provides a detailed technical description of the model. Broadly, the model's input consists of an acquisition scenario (i.e., weapon system programs and associated funds over time) and the contractors participating in those programs. The model's output shows the impact of the acquisition scenario on the contractor's business base over time.

ACQUISITION SCENARIO

The model includes programs in both R&D and production. The acquisition scenario is determined by DoD during the budget process. For an R&D program, the acquisition scenario is the year-by-year spending profile for that program. For a production program, the scenario comprises the year-by-year quantities to be bought and the unit price associated with those quantities. The acquisition scenario also includes production intended for export to a foreign country.

We express DoD R&D data as expected outlays (outlays show the time-phasing of annual appropriations). We express production (DoD procurement and foreign military sales) as an expected number of units built in a given year multiplied by an average unit price. We have adjusted aircraft weapon system unit prices by estimates of Government program management and oversight (often as much as 25 percent of program cost) to represent the funds that will flow to industry. All funds are expressed in "then year" terms, meaning they are unadjusted for inflation.

Contractor Participation

This portion of the model shows a breakout of the aircraft weapon system's unit price among the prime contractor and the first-tier subcontractors. On average, the prime contractor will retain between 40 and 60 percent of the funds; the remaining portion of the unit price is spent on purchased material and subcontracts. It is not always possible to account for 100 percent of the unit price; in that case, a dummy plant is assigned the residual amount of unallocated funds.

Impact of Acquisition Scenarios on the Contractor Base

We measure "impact" as the change in the contractor's revenues between the base year (1991) and the final year (1997). The results can be displayed in the following ways:

- Sorting by plant is the lowest level of aggregation and shows the change in the revenue base for each WBS activity at each plant.
- Sorting by the percentage change in business shows the plants that gain or lose revenue from the largest loss to largest gain.
- Sorting by WBS code shows the change in revenue flowing to a commodity sector within the industrial base.
- Plants can be aggregated to the company level to examine the cumulative impact on a defense-oriented company.
- Plants can also be aggregated geographically to show impacts at the state or regional level.
- The results also show the number of programs each prime and subcontractor works on, providing a view of the breadth of the contractor's business base.

Computer Implementation

We have implemented the model on a microcomputer running DOS Version 5.0, Windows Version 3.1, and Excel Version 4.0. The model is stored in an Excel file that occupies 925 kilobytes.

DATA

Aircraft Programs Considered

Table 5 describes the 15 aircraft programs comprising our model's data base.

TABLE 5
Aircraft Programs in the Model

Aircraft program	Service	Description
AH-64	Army	Attack helicopter
B-2	Air Force	Strategic bomber
C-130	Air Force	Transport
C-17	Air Force	Transport
CH-53E	Navy	Transport helicopter
E-2C	Navy	Warning and control
EA-6B	Navy	Electronic warfare
F-14	Navy	Fighter
F-15	Air Force	Fighter/bomber
F-16	Air Force	Fighter/bomber
F-22	Air Force	Fighter
F/A-18	Navy	Fighter/bomber
RAH-66	Army	Scout/attack helicopter
SH-60B	Navy	Multipurpose helicopter
UH-60A/L	Army	Utility helicopter

Acquisition Scenario Data

Weapon system program offices provided most of our data. The program offices were not asked to generate any new data. Most offices relied on data normally acquired during program administration and contracting. We used a variety of additional DoD and publicly available information to fill in data not provided by the program offices. Those data sources are as follows:

- *Program Acquisition Costs by Weapon System*, Department of Defense Budget for Fiscal Year 1993, January 29, 1992
- Raymond Hall, ed., "Selected Weapons Costs from the President's 1993 Program," Congressional Budget Office Memorandum, May 29, 1992

- Defense Acquisition Executive Summary (DAES) reports
- *RDT&E Programs (R-1)*, Department of Defense Budget (from various years)
- *Procurement Programs (P-1)*, Department of Defense Budget (from various years)
- Forecast International/DMS Market Intelligence Reports from Dialog Information Services
- The Federation of American Scientists (FAS).

Figure 5 shows the R&D and production (including production for export) funds flow to industry from the 15 programs. The various acquisition scenario matrices are presented in Appendix B.

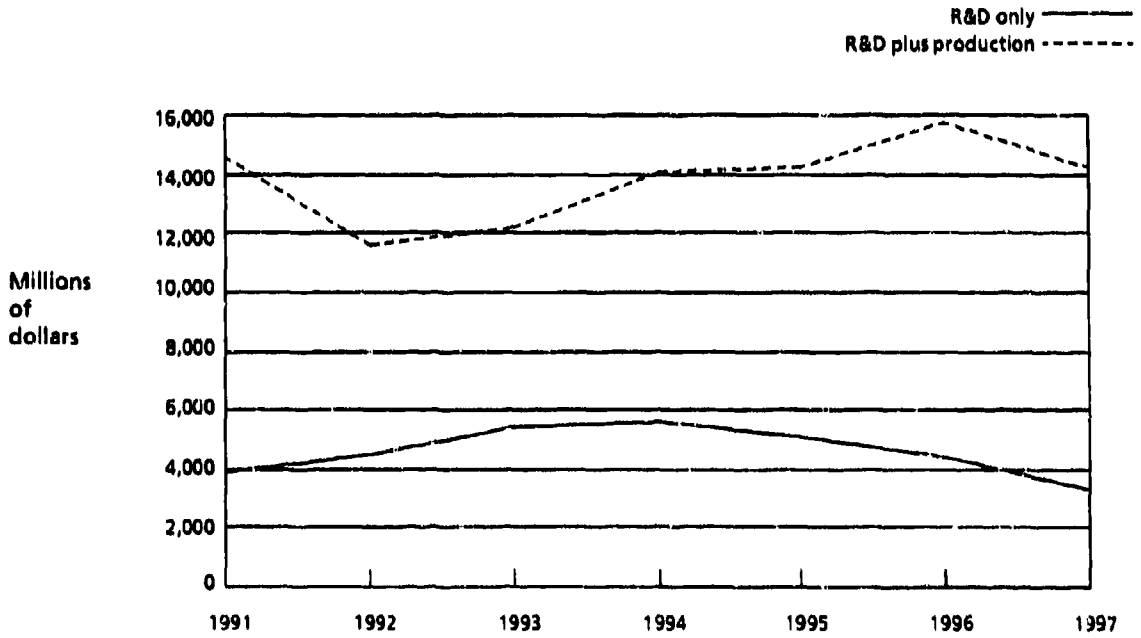


Figure 5
Estimated Funds Flow to Industry for 15 Major Aircraft Programs: FY91 to FY97

Contractor Data

For the 15 aircraft programs we identified program participation by 261 plant locations belonging to 181 companies. We obtained contractor participation information from the Military Services, with the exception of the B-2 strategic bomber. We obtained B-2 data from the FAS when the Air Force could not provide that data. The FAS obtained their data from Northrop Corporation, the B-2 prime contractor. Data about the B-2, C-17, F-14, F-15, F-16, and F/A-18 aircraft programs were obtained in 1990 as part of our fixed-wing aircraft study supporting Defense Secretary Cheney's Major Aircraft Review. We obtained the remaining aircraft programs' data in mid-1992.

Figure 6 shows the number of plants that we could identify with each aircraft program.

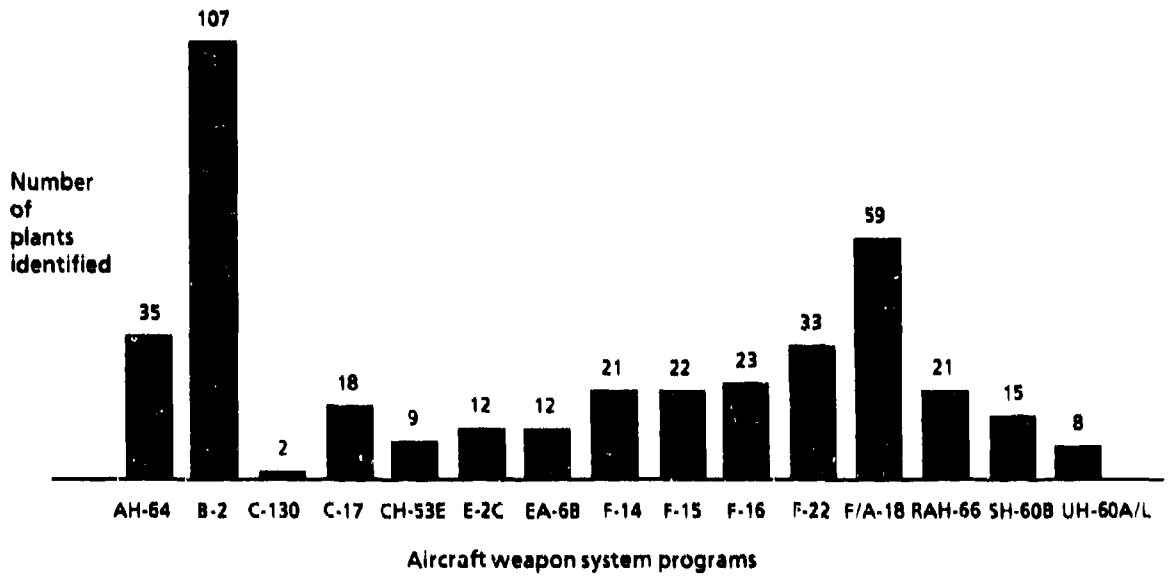


Figure 6
Number of Contractor Plant Locations Identified for Each Program

The data in Figure 6 are not a measure of how many contractors actually participate in each program; rather, they indicate how much data we could obtain. The aircraft program participants we identified generally are prime contractors and major first-tier subcontractors. The B-2 strategic bomber presents an exception, in that its advocates

have prepared extensive contractor lists showing subcontractors at all tiers.

The contractor information describes the type of hardware provided by each plant. To classify our results by hardware commodity, we developed a coding scheme based on the activity descriptions found in Military Standard (MIL-STD)-881A, "Work Breakdown Structures." Table 6 lists our codes and their WBS descriptions.

TABLE 6
Work Breakdown Structure Codes and Descriptions Based on MIL-STD-881A

Code	Description
1	Airframe
1.1	Fuselage
1.2	Wings
1.3	Control surfaces
1.4	Flight controls
1.5	Landing gear
1.6	Power and conditioning
1.7	Cockpit
1.8	Other airframe
2	Avionics
2.1	Communications
2.2	Navigation/guidance
2.3	Fire control
2.4	Penetration aids
2.5	Reconnaissance equipment
2.6	Automatic flight controls
2.7	Anti-submarine warfare
2.8	Other avionics
3	Propulsion
3.1	Propulsion unit
3.2	Other propulsion
4	Integrated weapons
4.1	Armament
4.2	Weapons delivery equipment
4.3	Auxiliary armament
4.4	Other weapons
5	Support
5.1	Training
5.2	Equipment
5.3	Services
5.4	Facilities
5.5	Other support

Source: MIL-STD-881A, except codes, which were developed by LMI.

ASSUMPTIONS, LIMITATIONS, AND EXTENSIONS

Our findings must be tempered by the limitations of the data. Because some plants serve several defense commodities (i.e., aircraft, missiles, and tanks), the actual total economic impact on a plant might be more or less severe across all commodities than for just the aircraft programs we evaluate. Our model can be readily extended by the addition of more programs with data that are collected by most program offices.

Some plants produce a wider range of commodities than is captured in our data. Although we may identify more than one product in any given plant, other products also may be produced at that plant. Also, the model does not include (but can accommodate) any commercial work performed at a plant. Thus, our findings report only projected changes in defense business and do not imply that a plant will necessarily lose all its business base even if it loses all of its defense business.[2]

For any given program, contractor participation is not static. We expect most contractor turnover to occur over long time periods and in the subtiers (e.g., casting suppliers). We feel that updating the contractor list every 3 to 5 years would ensure reasonable validity.

Acquisition estimates are the most reliable we could obtain from unclassified sources. Actual procurement quantities are often less than planned, particularly for programs early in development. Changes of an order of magnitude are common. These effects are dampened by changes in unit price, which increases as the buy quantity decreases. The unit prices we use reflect our estimate considering the quantity and time horizon. Changes to the buy quantities will almost certainly require changes in the unit price (and the model can easily handle these changes). Again, the limits are in the reliability of the data available.

[2]It should be possible to determine a plant's total business base from data collected by the Bureau of the Census. Such plant-level data are held by the Department of Commerce and are not publicly releasable.

APPENDIX A

Technical Description of the Model

ACQUISITION SCENARIO

Input to the acquisition scenario consists of development plans and procurement plans. For development plans, we define the matrix $\mathbf{D}=\mathrm{D}(Y,S)$ to represent the dollars to be spent for system s's R&D in year y (i.e., outlays).[1] Procurement plans require the planned acquisition quantity for each program and the average unit price associated with that quantity. We define a matrix $\mathbf{P}=\mathrm{P}(Y,S)$ to represent domestic (U.S. Government) unit procurements of system s in year y and a matrix $\mathbf{F}=\mathrm{F}(Y,S)$ to represent foreign military/direct unit sales. We then calculate the matrix $\mathbf{Q}=\mathrm{Q}(Y,S)$ to represent total procurement quantities, $\mathbf{Q}=\mathbf{D}+\mathbf{F}$. We also define the square matrix $\mathbf{U}=\mathrm{U}(S,S)$, in which we place average unit prices on the diagonal [in cells $\mathrm{U}(s,s)$]. Other cells in U are set to zero.[2]

We set $\mathrm{U}(s,s)$ to the average unit price the contractor is expected to receive per unit of production. In some cases, especially where contractor fixed costs are high, unit prices may be quite sensitive to variations in buy quantity (see the "Assumptions, Limitations, and Extensions" subsection of this report).

The acquisition scenario consists of a matrix $\mathbf{A}=\mathrm{A}(Y,S)$ whose cells $\mathrm{A}(y,s)$ represent the planned dollars that will flow to industry in year y from system s. Each entry in A represents development spending, plus an "extended price" for production that is calculated by multiplying the planned production quantity $\mathrm{Q}(y,s)$ by the program average unit price $\mathrm{U}(s,s)$. More precisely, $\mathbf{A}=\mathbf{D}+(\mathbf{Q}\cdot\mathbf{U})$.

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[1] A word on our matrix notation: **X** is shorthand for the entire matrix $\mathbf{X}(I,J)$, which consists of I rows and J columns. $\mathbf{X}(i,j)$ then refers to a cell in **X**.

[2] While it is easier to think of $\mathrm{U}(S,S)$ simply as a vector of unit prices, one price per system, it must be expressed in this matrix form in order to perform subsequent algebra.

CONTRACTOR PARTICIPATION

Contractor participation is captured in matrix $L=L(C,S)$, which represents the portion of system s's unit price (or R&D effort) that represents revenue retained by contractor plant c $[0 \le L(c,s) \le 1]$. The program vectors comprising L should sum to one; that is,

$$\sum_{i=1}^{C} L(i,s) = 1, \forall s, \qquad \text{Eq. 1}$$

where C represents the total number of plants.

Because it is not always possible to identify all contractors participating in a program, we often assign a "dummy" plant location the missing portion of program value. Associated with the plant index variable c $(c=1..C)$ is descriptive information: company and division names, city, state, and a commodity code.

IMPACT OF ACQUISITION UPON CONTRACTORS

Model output consists of the number of programs in which each plant participates and the revenue from planned acquisitions accruing to each plant in each year. The number of programs in which each plant participates, denoted by $N=N(C)$, is easily calculated from the matrix L. First, we define the matrix $B=B(C,S)$ and set $B(c,s)=0$ if $L(c,s)=0$; otherwise, we set $B(c,s)=1$. Then,

$$N(c) = \sum_{j=1}^{S} B(c,j), \forall c, \qquad \text{Eq. 2}$$

where S represents the total number of programs being considered.

The revenue accruing to each plant is given by the matrix $R=R(C,Y)$, where $R=L \cdot AT$. The columns in R correspond to years and can be compared to calculate the change in revenues over time. Because the rows in R correspond to plant locations, R can be sorted by

any associated information to give various views of the acquisition impact. Examples of sorting options are as follows:

- Alphabetically, by plant-location, to give a company view
- By commodity code, to give a subsystem or product view
- By degree of change
- By location.

APPENDIX B

Acquisition Scenarios and Economic Impact Tables

In this appendix, we present computer printouts that provide details supporting the summary figures presented in the report's body. First, we present the acquisition scenario. We then present the economic impact details sorted by

- percent change in revenue,
- work breakdown structure, and
- location.

In each list, we deliberately omit company names and locations to preserve confidentiality. Finally, we present the economic impact at the company level sorted by the percentage change in revenue.

TABLE B-1

Acquisition Scenario

Matrix D(Year,System)=development costs in millions of dollars.

Year	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
1991	$36	$1,500	$0	$811	$13	$34	$11	$117	$72	$24	$949	$46	$260	$11	$2
1992	$8	$1,557	$0	$571	$12	$19	$11	$115	$91	$95	$1,300	$255	$398	$23	$1
1993	$3	$1,443	$1	$351	$12	$10	$23	$110	$77	$157	$1,893	$764	$534	$29	$1
1994	$2	$1,194	$2	$190	$11	$4	$24	$59	$52	$192	$2,306	$1,121	$411	$40	$0
1995	$0	$828	$2	$74	$6	$2	$16	$31	$38	$173	$2,423	$1,087	$352	$42	$0
1996	$0	$666	$3	$22	$1	$0	$6	$24	$24	$200	$2,181	$905	$323	$43	$0
1997	$0	$382	$3	$6	$0	$0	$2	$24	$11	$276	$1,738	$541	$268	$36	$0

Matrix P(Year,System)=domestic procurements in units.

Year	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
1991	0	2	0	0	12	6	1	12	42	108	0	48	0	6	48
1992	4	1	9	4	20	6	0	0	3	48	0	48	0	13	60
1993	0	0.111	8	8	20	0	3	0	0	24	0	48	0	12	60
1994	0	0.652	8	12	20	0	9	0	0	0	0	39	0	12	60
1995	0	1.284	8	18	0	0	9	0	0	0	0	45	0	12	60
1996	0	1.143	8	18	0	0	12	0	0	0	4	48	0	12	60
1997	0	0.805	8	18	0	0	12	0	0	0	4	66	0	12	0

Matrix F(Year,System)=foreign military/direct sales in units.

Year	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
1991	0	0	0	0	0	3	0	0	26	63	0	11	0	0	0
1992	0	0	0	0	0	3	0	0	0	56	0	22	0	0	5
1993	14	0	0	0	0	0	0	0	12	76	0	17	0	0	20
1994	53	0	5	0	0	0	0	0	12	84	0	0	0	0	23
1995	48	0	4	0	0	0	0	0	6	51	0	11	0	3	36
1996	48	0	4	0	0	0	0	0	18	47	0	84	0	3	49
1997	28	0	0	0	0	0	0	0	18	52	0	84	0	0	4

Matrix Q(Year,System)=P(y,s)+F(y,s), in units. CALCULATED.

Year	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
1991	0	2	0	0	12	9	1	12	68	171	0	59	0	6	48
1992	4	1	9	4	20	9	0	0	3	104	0	70	0	13	65
1993	14	0	8	8	20	0	3	0	12	100	0	65	0	12	80
1994	53	1	13	12	20	0	9	0	12	84	0	39	0	12	83
1995	48	1	12	18	0	0	9	0	6	51	0	56	0	15	96
1996	48	1	12	18	0	0	12	0	18	47	4	112	0	15	109
1997	28	1	8	18	0	0	12	0	18	52	4	150	0	12	4
Column Totals	195	7	62	78	72	18	46	12	137	609	8	551	0	85	485

Matrix U(System,System)=average unit prices(on diagonal only) in millions of dollars.

	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
AH-64	$18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-2	0	$1,080	0	0	0	0	0	0	0	0	0	0	0	0	0
C-130	0	0	$30	0	0	0	0	0	0	0	0	0	0	0	0
C-17	0	0	0	$138	0	0	0	0	0	0	0	0	0	0	0
CH-53E	0	0	0	0	$22	0	0	0	0	0	0	0	0	0	0
E-2C	0	0	0	0	0	$59	0	0	0	0	0	0	0	0	0
EA-6B	0	0	0	0	0	0	$86	0	0	0	0	0	0	0	0
F-14	0	0	0	0	0	0	0	$30	0	0	0	0	0	0	0
F-15	0	0	0	0	0	0	0	0	$38	0	0	0	0	0	0
F-16	0	0	0	0	0	0	0	0	0	$16	0	0	0	0	0
F-22	0	0	0	0	0	0	0	0	0	0	$48	0	0	0	0
F/A-18	0	0	0	0	0	0	0	0	0	0	0	$26	0	0	0
RAH-66	0	0	0	0	0	0	0	0	0	0	0	0	$0	0	0
SH-60B	0	0	0	0	0	0	0	0	0	0	0	0	0	$16	0
UH-60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$6

Matrix A(Year,System)=D(Y,S)+[Q(Y,S)*U(S,S)], in millions of dollars. CALCULATED.

Year	AH-64	B-2	C-130	C-17	CH-53E	E-2C	EA-6B	F-14	F-15	F-16	F-22	F/A-18	RAH-66	SH-60B	UH-60
1991	$36	$3,680	$0	$811	$280	$564	$97	$479	$2,656	$2,760	$949	$1,580	$260	$105	$276
1992	$79	$2,847	$273	$1,123	$457	$549	$11	$115	$205	$1,759	$1,300	$2,075	$398	$228	$371
1993	$253	$1,564	$244	$1,455	$457	$10	$281	$110	$533	$1,757	$1,893	$2,454	$534	$218	$457
1994	$949	$1,905	$396	$1,846	$456	$4	$799	$59	$508	$1,536	$2,306	$2,135	$411	$229	$473
1995	$858	$2,228	$366	$2,558	$6	$2	$790	$31	$266	$989	$2,423	$2,523	$352	$279	$547
1996	$858	$1,912	$367	$2,506	$1	$0	$1,039	$24	$708	$952	$2,373	$3,817	$323	$280	$621
1997	$500	$1,259	$246	$2,490	$0	$0	$1,035	$24	$695	$1,108	$1,929	$4,441	$268	$226	$23
Column Totals	$3,533	$15,195	$1,891	$12,790	$1,657	$1,129	$4,054	$840	$5,572	$10,862	$13,174	$19,024	$2,545	$1,565	$2,768

Total value of this acquisition scenario
(in millions of dollars)=$96,599

TABLE B-2

Plant-Level Impact, Sorted by Change in Revenue

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
1	NY	1.8	1	5.0	0.0	–100
2	NY	2.1	1	0.1	0.0	–100
3	CO	2.2	1	5.6	0.0	–100
4	GA	2.2	1	10.7	0.0	–100
5	IA	2.2	1	0.3	0.0	–100
6	NY	2.5	1	53.0	0.0	–100
7	CA	2.5	1	22.0	0.0	–100
8	CO	2.6	1	24.8	0.0	–100
9	OH	2.8	1	5.1	0.0	–100
10	ITALY	3.2	1	16.5	0.0	–100
11	CT	3.2	1	5.6	0.0	–100
12	CA	1.4	1	0.3	0.0	–95
13	CAN	1.6	1	0.4	0.0	–95
14	CA	1.6	1	1.2	0.1	–95
15	NY	1.6	1	0.4	0.0	–95
16	OH	1.6	1	26.5	1.3	–95
17	CA	1.7	1	33.8	1.7	–95
18	CA	1.7	1	0.2	0.0	–95
19	CA	1.8	1	7.7	0.4	–95
20	CA	2.3	1	2.6	0.1	–95
21	CA	2.6	1	5.4	0.3	–95
22	CA	2.8	1	0.7	0.0	–95
23	NY	2.2	2	25.2	1.3	–95
24	OH	1.4	1	3.9	0.3	–92
25	CT	1.7	1	11.5	1.0	–92
26	CA	1.8	1	2.9	0.2	–92
27	CAN	2.1	1	2.1	0.2	–92
28	WI	2.8	1	2.3	0.2	–92
29	MA	3.2	1	2.7	0.2	–92
30	CT	3.2	2	8.5	0.8	–91
31	OH	3.1	2	279.9	67.9	–76
32	NJ	1.7	2	3.5	0.9	–75
33	NY	1.7	1	24.7	6.5	–74
34	CA	1.4	1	5.6	1.5	–74
35	NY	1.7	1	14.2	3.7	–74
36	MI	1.8	1	43.1	11.3	–74
37	NY	2.4	1	42.7	11.2	–74
38	TX	2.4	1	5.4	1.4	–74
39	FL	2.6	1	10.5	2.7	–74
40	NY	1.4	2	24.4	6.7	–73
41	CT	2.3	2	9.7	2.7	–72
42	IN	2.1	2	7.3	2.1	–71
43	AZ	1.6	5	28.1	8.6	–69
44	CA	1.6	1	7.6	2.6	–66
45	CA	1.8	1	7.6	2.6	–66

TABLE B-2
Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
46	CA	1.8	1	7.6	2.6	-66
47	CA	2.1	1	30.6	10.5	-66
48	CA	2.1	1	7.6	2.6	-66
49	CA	2.2	1	30.6	10.5	-66
50	CA	2.2	1	30.6	10.5	-66
51	CA	2.8	1	7.6	2.6	-66
52	CA	2.8	1	30.6	10.5	-66
53	CA	2.8	1	7.6	2.6	-66
54	CA	2.8	1	7.6	2.6	-66
55	CA	2.8	1	7.6	2.6	-66
56	CA	2.8	1	61.1	20.9	-66
57	CA	2.8	1	7.6	2.6	-66
58	CA	2.8	1	30.6	10.5	-66
59	CA	3.2	1	30.6	10.5	-66
60	CA	4.4	1	7.6	2.6	-66
61	MD	5.2	1	1.1	0.4	-66
62	CA	1	1	990.4	339.0	-66
63	WA	1.1	1	672.5	230.2	-66
64	UT	1.1	1	1.0	0.4	-66
65	NY	1.4	1	3.7	1.3	-66
66	CT	1.4	1	0.8	0.3	-66
67	CT	1.4	1	0.8	0.3	-66
68	NY	1.6	1	3.7	1.3	-66
69	CT	1.6	1	0.8	0.3	-66
70	NY	1.6	1	3.7	1.3	-66
71	NJ	1.6	1	0.0	0.0	-66
72	IL	1.7	1	4.3	1.5	-66
73	NJ	1.8	1	2.4	0.8	-66
74	CT	1.8	1	0.8	0.3	-66
75	CT	1.8	1	0.8	0.3	-66
76	TX	1.8	1	0.3	0.1	-66
77	NY	1.8	1	3.7	1.3	-66
78	NY	1.8	1	3.7	1.3	-66
79	CT	1.8	1	0.8	0.3	-66
80	NY	1.8	1	3.7	1.3	-66
81	NY	1.8	1	3.7	1.3	-66
82	CT	1.8	1	0.8	0.3	-66
83	TX	2.1	1	4.6	1.6	-66
84	NJ	2.2	1	2.4	0.8	-66
85	CO	2.3	1	3.1	1.1	-66
86	NY	2.5	1	3.7	1.3	-66
87	NY	2.6	1	3.7	1.3	-66
88	MA	2.8	1	0.9	0.3	-66
89	OH	2.8	1	18.8	6.4	-66
90	KS	2.8	1	1.4	0.5	-66

TABLE B-2

Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
91	NY	2.8	1	3.7	1.3	-66
92	TX	2.8	1	4.6	1.6	-66
93	CO	2.8	1	1.6	0.5	-66
94	TX	2.8	1	4.6	1.6	-66
95	NJ	2.8	1	2.4	0.8	-66
96	OH	2.8	1	18.8	6.4	-66
97	NJ	2.8	1	2.4	0.8	-66
98	MA	2.8	1	0.9	0.3	-66
99	MA	2.8	1	0.9	0.3	-66
100	MA	2.8	1	0.9	0.3	-66
101	MA	2.8	1	0.9	0.3	-66
102	NY	2.8	1	3.7	1.3	-66
103	TX	2.8	1	4.6	1.6	-66
104	MN	2.8	1	9.2	3.1	-66
105	FL	2.8	1	3.1	1.0	-66
106	MA	2.8	1	0.9	0.3	-66
107	MA	3.2	1	0.9	0.3	-66
108	CT	3.2	1	0.8	0.3	-66
109	NY	3.2	1	3.7	1.3	-66
110	CT	4.4	1	0.8	0.3	-66
111	CT	4.4	1	0.8	0.3	-66
112	CO	4.4	1	1.6	0.5	-66
113	CT	5.2	1	0.8	0.3	-66
114	MN	5.2	1	9.2	3.1	-66
115	TX	5.2	1	0.3	0.1	-66
116	WA	5.3	1	4.6	1.6	-66
117	KY	1.6	1	0.0	0.0	-66
118	MI	2.2	1	3.6	1.2	-66
119	GA	2.4	1	1.5	0.5	-66
120	NH	2.8	1	0.1	0.0	-66
121	CA	2.8	1	0.4	0.1	-66
122	NH	2.8	1	0.1	0.0	-66
123	NJ	2.8	1	0.1	0.0	-66
124	NJ	2.8	2	11.2	4.2	-62
125	CA	2.8	4	419.1	161.5	-61
126	CA	1.4	3	31.5	12.2	-61
127	IL	1.6	4	103.7	41.3	-60
128	OH	1.5	1	3.1	1.2	-60
129	TX	1.5	1	23.3	9.3	-60
130	OH	1.6	1	12.8	5.1	-60
131	TX	1.7	1	2.0	0.8	-60
132	ISRAEL	1.8	1	9.5	3.8	-60
133	MD	2.2	1	172.5	69.3	-60
134	CA	2.3	1	13.8	5.5	-60
135	CA	2.4	1	17.1	6.9	-60

TABLE B-2
Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
136	CA	2.6	1	8.6	3.5	–60
137	ISRAEL	2.8	1	11.0	4.4	–60
138	CT	1	4	451.8	194.0	–57
139	CA	1.6	3	12.7	5.5	–57
140	NY	1	4	514.3	239.7	–53
141	CT	3.1	3	786.5	368.0	–53
142	VA	2.6	2	9.7	4.8	–50
143	NM	2.6	4	64.7	35.0	–46
144	CA	1	4	61.6	35.1	–43
145	NJ	2.6	2	25.7	15.8	–38
146	TX	1	2	1,729.3	1,083.5	–37
147	CA	1.7	3	9.2	6.5	–30
148	NY	1.6	2	3.9	2.9	–25
149	IA	2.1	6	38.0	29.2	–23
150	MD	2.8	3	9.5	7.3	–23
151	NY	1.7	3	7.0	5.4	–23
152	AZ	1.6	2	4.4	3.5	–19
153	NY	3.2	2	3.9	3.1	–19
154	CA	1.7	2	2.7	2.2	–17
155	CA	1.6	3	66.3	55.3	–17
156	VT	4.1	3	37.8	31.5	–17
157	MN	1.8	2	2.5	2.4	–4
158	AZ	3.1	3	17.1	16.5	–4
159	AZ	2.2	2	24.7	24.6	–1
160	WA	1.6	2	6.2	6.2	0
161	TX	1.1	2	323.0	324.4	0
162	IN	3.1	3	36.3	37.1	2
163	VA	1.8	2	5.6	5.8	3
164	MN	1.4	1	0.4	0.4	3
165	PA	2	1	67.0	69.0	3
166	CA	2	1	9.2	9.5	3
167	FL	2.2	1	8.7	8.9	3
168	CT	2.3	1	3.6	3.7	3
169	CA	2.3	1	9.7	10.0	3
170	AZ	3.2	1	2.4	2.5	3
171	CT	3.2	1	1.8	1.8	3
172	NY	5.1	1	2.9	3.0	3
173	CA	5.5	1	0.4	0.4	3
174	WA	2	1	7.8	8.0	3
175	CA	2.6	1	2.5	2.5	3
176	CT	1.4	3	2.8	3.1	11
177	MI	1.4	3	25.5	28.5	12
178	MO	1	3	1,826.8	2,511.0	37
179	CAN	2.8	2	2.2	3.5	57
180	CA	2.2	3	26.5	42.6	61

TABLE B-2

Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
181	MA	3.1	7	718.0	1,161.9	62
182	CT	3.2	3	15.0	25.4	69
183	MD	2.3	2	39.0	68.4	76
184	MD	2.4	2	33.9	60.1	78
185	CA	4.4	2	1.2	2.2	85
186	NH	2.8	2	10.7	21.7	102
187	CA	1.6	1	4.3	8.7	103
188	NC	1.8	1	0.2	0.4	103
189	NH	2.1	1	4.4	8.9	103
190	CA	2.3	1	5.0	10.1	103
191	CA	2.6	1	3.6	7.3	103
192	MN	2.6	1	1.0	2.1	103
193	TX	2.6	1	3.6	7.4	103
194	FL	2.8	1	6.1	12.3	103
195	NY	4.2	1	1.1	2.3	103
196	NJ	4.2	1	1.4	2.8	103
197	WA	1	1	238.7	485.1	103
198	NJ	1.4	1	1.0	2.0	103
199	TX	1.5	1	2.1	4.2	103
200	NY	1.6	1	0.1	0.2	103
201	UK	1.7	1	0.6	1.2	103
202	AZ	2.1	1	1.6	3.2	103
203	CA	2.1	1	36.5	74.2	103
204	VA	2.3	1	0.5	1.0	103
205	NH	2.3	1	62.9	127.9	103
206	TX	2.3	1	28.3	57.5	103
207	UK	2.8	1	2.5	5.1	103
208	FL	2.3	3	44.7	95.3	113
209	OH	1.5	1	1.1	2.3	114
210	AZ	1.6	1	1.1	2.3	114
211	IA	2.1	1	1.1	2.3	114
212	NY	2.1	1	1.1	2.3	114
213	MA	2.4	1	1.1	2.3	114
214	NY	2.7	1	1.1	2.3	114
215	VA	2.7	1	2.1	4.5	114
216	TX	2.7	1	1.1	2.3	114
217	MN	2.8	1	1.1	2.3	114
218	NY	2	1	30.6	65.4	114
219	VT	1.8	2	0.8	1.8	121
220	CT	1.3	3	9.7	27.1	179
221	MA	1.7	1	0.0	0.1	181
222	CA	1.7	1	31.0	87.1	181
223	RI	1.7	1	0.3	0.8	181
224	CA	1.8	1	0.1	0.3	181
225	CA	2.3	1	84.8	237.9	181

TABLE B-2
Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
226	CA	1	1	362.3	1,018.5	181
227	CAN	1.1	1	0.9	2.6	181
228	CAN	1.1	1	4.0	11.2	181
229	MI	1.4	1	0.2	0.7	181
230	CA	1.4	1	0.6	1.7	181
231	NY	1.4	1	0.9	2.5	181
232	CA	1.4	1	0.2	0.5	181
233	MI	1.4	1	7.6	21.5	181
234	IN	1.5	1	2.2	6.3	181
235	OH	1.5	1	0.0	0.0	181
236	MO	1.6	1	0.3	0.8	181
237	MO	1.7	1	2.5	7.0	181
238	MS	1.7	1	2.0	5.5	181
239	IL	1.8	1	4.3	12.0	181
240	CAN	1.8	1	6.0	16.9	181
241	CAN	2.1	1	17.5	49.2	181
242	AL	2.1	1	1.6	4.5	181
243	MN	2.2	1	2.6	7.2	181
244	CO	2.2	1	0.5	1.5	181
245	MA	2.2	1	0.0	0.1	181
246	NY	2.3	1	1.0	2.7	181
247	CA	2.3	1	101.6	285.5	181
248	NY	2.6	1	16.4	46.1	181
249	AZ	2.6	1	6.1	17.2	181
250	OK	5.2	1	5.4	15.2	181
251	NY	5.2	1	0.0	0.1	181
252	CA	5.2	1	16.2	45.4	181
253	OH	1.5	2	16.7	48.6	191
254	GA	1	2	238.7	703.2	195
255	—	1.1	1	0.5	1.5	207
256	MI	1.2	1	0.1	0.3	207
257	IL	1.2	1	0.4	1.2	207
258	TN	1.3	1	1.1	3.4	207
259	CAN	1.5	1	0.4	1.3	207
260	UK	1.8	1	0.3	1.0	207
261	VT	1.8	1	0.2	0.5	207
262	CA	1.1	1	3.5	10.7	207
263	KS	1.2	1	4.1	12.6	207
264	WA	5.2	1	1.4	4.2	207
265	CA	4.2	2	3.7	11.9	222
266	CA	1.4	3	9.8	33.6	242
267	CA	2.3	2	0.3	2.1	691
268	NH	2.4	2	6.7	62.4	831
269	TX	2.5	2	16.5	167.3	911
270	FL	3.1	2	3.8	40.5	956

TABLE B-2

Plant-Level Impact, Sorted by Change in Revenue (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
271	CT	2.2	1	1.0	10.1	965
272	MN	2.8	1	7.0	74.1	965
273	MD	2.5	1	15.5	165.1	965
274	NH	2.5	1	15.5	165.1	965
275	NY	2.8	1	5.6	60.1	965
276	CA	2.8	1	0.6	6.5	965
277	AZ	1	1	22.0	307.9	1,302
278	MN	2.3	1	0.3	4.0	1,302
279	MA	2.3	1	0.1	0.8	1,302
280	CT	3.2	1	0.1	1.3	1,302
281	CA	1.1	1	3.2	44.8	1,302
282	AZ	1.7	1	0.3	3.8	1,302
283	NY	1.8	1	0.1	1.4	1,302
284	WI	2.8	1	0.1	1.7	1,302
285	GER	2.8	1	0.1	1.2	1,302
286	CA	3.2	1	0.4	6.2	1,302
287	PA	3.2	1	0.0	0.7	1,302
288	IA	4.1	1	0.1	1.4	1,302
289	CA	4.2	1	0.1	1.4	1,302
290	NJ	4.4	1	0.1	0.9	1,302
291	NJ	4.4	1	0.1	1.1	1,302
292	CA	1.5	1	0.2	2.4	1,302
293	NJ	1.6	1	0.1	1.2	1,302
294	IL	3.2	1	0.1	1.5	1,302
295	IL	3.2	1	0.6	8.7	1,302
296	–	999	ignore	ignore	ignore	ignore
Total			–	12,415.3	12,719.6	2

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
1	CA	1	1	990.4	339.0	–66
2	CT	1	4	451.8	194.0	–57
3	NY	1	4	514.3	239.7	–53
4	CA	1	4	61.6	35.1	–43
5	TX	1	2	1,729.3	1,083.5	–37
6	MO	1	3	1,826.8	2,511.0	37
7	WA	1	1	238.7	485.1	103
8	CA	1	1	362.3	1,018.5	181
9	GA	1	2	238.7	703.2	195
10	AZ	1	1	22.0	307.9	1302
11	WA	1.1	1	672.5	230.2	–66
12	UT	1.1	1	1.0	0.4	–66
13	TX	1.1	2	323.0	324.4	0
14	CAN	1.1	1	0.9	2.6	181
15	CAN	1.1	1	4.0	11.2	181
16	–	1.1	1	0.5	1.5	207
17	CA	1.1	1	3.5	10.7	207
18	CA	1.1	1	3.2	44.8	1,302
19	MI	1.2	1	0.1	0.3	207
20	IL	1.2	1	0.4	1.2	207
21	KS	1.2	1	4.1	12.6	207
22	CT	1.3	3	9.7	27.1	179
23	TN	1.3	1	1.1	3.4	207
24	CA	1.4	1	0.3	0.0	–95
25	OH	1.4	1	3.9	0.3	–92
26	CA	1.4	1	5.6	1.5	–74
27	NY	1.4	2	24.4	6.7	–73
28	NY	1.4	1	3.7	1.3	–66
29	CT	1.4	1	0.8	0.3	–66
30	CT	1.4	1	0.8	0.3	–66
31	CA	1.4	3	31.5	12.2	–61
32	MN	1.4	1	0.4	0.4	3
33	CT	1.4	3	2.8	3.1	11
34	MI	1.4	3	25.5	28.5	12
35	NJ	1.4	1	1.0	2.0	103
36	MI	1.4	1	0.2	0.7	181
37	CA	1.4	1	0.6	1.7	181
38	NY	1.4	1	0.9	2.5	181
39	CA	1.4	1	0.2	0.5	181
40	MI	1.4	1	7.6	21.5	181
41	CA	1.4	3	9.8	33.6	242
42	OH	1.5	1	3.1	1.2	–60
43	TX	1.5	1	23.3	9.3	–60
44	TX	1.5	1	2.1	4.2	103
45	OH	1.5	1	1.1	2.3	114

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
46	IN	1.5	1	2.2	6.3	181
47	OH	1.5	1	0.0	0.0	181
48	OH	1.5	2	16.7	48.6	191
49	CAN	1.5	1	0.4	1.3	207
50	CA	1.5	1	0.2	2.4	1,302
51	CAN	1.6	1	0.4	0.0	-95
52	CA	1.6	1	1.2	0.1	-95
53	NY	1.6	1	0.4	0.0	-95
54	OH	1.6	1	26.5	1.3	-95
55	AZ	1.6	5	28.1	8.6	-69
56	CA	1.6	1	7.6	2.6	-66
57	NY	1.6	1	3.7	1.3	-66
58	CT	1.6	1	0.8	0.3	-66
59	NY	1.6	1	3.7	1.3	-66
60	NJ	1.6	1	0.0	0.0	-66
61	KY	1.6	1	0.0	0.0	-66
62	IL	1.6	4	103.7	41.3	-60
63	OH	1.6	1	12.8	5.1	-60
64	CA	1.6	3	12.7	5.5	-57
65	NY	1.6	2	3.9	2.9	-25
66	AZ	1.6	2	4.4	3.5	-19
67	CA	1.6	3	66.3	55.3	-17
68	WA	1.6	2	6.2	6.2	0
69	CA	1.6	1	4.3	8.7	103
70	NY	1.6	1	0.1	0.2	103
71	AZ	1.6	1	1.1	2.3	114
72	MO	1.6	1	0.3	0.8	181
73	NJ	1.6	1	0.1	1.2	1,302
74	CA	1.7	1	33.8	1.7	-95
75	CA	1.7	1	0.2	0.0	-95
76	CT	1.7	1	11.5	1.0	-92
77	NJ	1.7	2	3.5	0.9	-75
78	NY	1.7	1	24.7	6.5	-74
79	NY	1.7	1	14.2	3.7	-74
80	IL	1.7	1	4.3	1.5	-66
81	TX	1.7	1	2.0	0.8	-60
82	CA	1.7	3	9.2	6.5	-30
83	NY	1.7	3	7.0	5.4	-23
84	CA	1.7	2	2.7	2.2	-17
85	UK	1.7	1	0.6	1.2	103
86	MA	1.7	1	0.0	0.1	181
87	CA	1.7	1	31.0	87.1	181
88	RI	1.7	1	0.3	0.8	181
89	MO	1.7	1	2.5	7.0	181
90	MS	1.7	1	2.0	5.5	181

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
91	AZ	1.7	1	0.3	3.8	1,302
92	NY	1.8	1	5.0	0.0	–100
93	CA	1.8	1	7.7	0.4	–95
94	CA	1.8	1	2.9	0.2	–92
95	MI	1.8	1	43.1	11.3	–74
96	CA	1.8	1	7.6	2.6	–66
97	CA	1.8	1	7.6	2.6	–66
98	NJ	1.8	1	2.4	0.8	–66
99	CT	1.8	1	0.8	0.3	–66
100	CT	1.8	1	0.8	0.3	–66
101	TX	1.8	1	0.3	0.1	–66
102	NY	1.8	1	3.7	1.3	–66
103	NY	1.8	1	3.7	1.3	–66
104	CT	1.8	1	0.8	0.3	–66
105	NY	1.8	1	3.7	1.3	–66
106	NY	1.8	1	3.7	1.3	–66
107	CT	1.8	1	0.8	0.3	–66
108	ISRAEL	1.8	1	9.5	3.8	–60
109	MN	1.8	2	2.5	2.4	–4
110	VA	1.8	2	5.6	5.8	3
111	NC	1.8	1	0.2	0.4	103
112	VT	1.8	2	0.8	1.8	121
113	CA	1.8	1	0.1	0.3	181
114	IL	1.8	1	4.3	12.0	181
115	CAN	1.8	1	6.0	16.9	181
116	UK	1.8	1	0.3	1.0	207
117	VT	1.8	1	0.2	0.5	207
118	NY	1.8	1	0.1	1.4	1,302
119	PA	2	1	67.0	69.0	3
120	CA	2	1	9.2	9.5	3
121	WA	2	1	7.8	8.0	3
122	NY	2	1	30.6	65.4	114
123	NY	2.1	1	0.1	0.0	–100
124	CAN	2.1	1	2.1	0.2	–92
125	IN	2.1	2	7.3	2.1	–71
126	CA	2.1	1	30.6	10.5	–66
127	CA	2.1	1	7.6	2.6	–66
128	TX	2.1	1	4.6	1.6	–66
129	IA	2.1	6	38.0	29.2	–23
130	NH	2.1	1	4.4	8.9	103
131	AZ	2.1	1	1.6	3.2	103
132	CA	2.1	1	36.5	74.2	103
133	IA	2.1	1	1.1	2.3	114
134	NY	2.1	1	1.1	2.3	114
135	CAN	2.1	1	17.5	49.2	181

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
136	AL	2.1	1	1.6	4.5	181
137	CO	2.2	1	5.6	0.0	–100
138	GA	2.2	1	10.7	0.0	–100
139	IA	2.2	1	0.3	0.0	–100
140	NY	2.2	2	25.2	1.3	–95
141	CA	2.2	1	30.6	10.5	–66
142	CA	2.2	1	30.6	10.5	–66
143	NJ	2.2	1	2.4	0.8	–66
144	MI	2.2	1	3.6	1.2	–66
145	MD	2.2	1	172.5	69.3	–60
146	AZ	2.2	2	24.7	24.6	–1
147	FL	2.2	1	8.7	8.9	3
148	CA	2.2	3	26.5	42.6	61
149	MN	2.2	1	2.6	7.2	181
150	CO	2.2	1	0.5	1.5	181
151	MA	2.2	1	0.0	0.1	181
152	CT	2.2	1	1.0	10.1	965
153	CA	2.3	1	2.6	0.1	–95
154	CT	2.3	2	9.7	2.7	–72
155	CO	2.3	1	3.1	1.1	–66
156	CA	2.3	1	13.8	5.5	–60
157	CT	2.3	1	3.6	3.7	3
158	CA	2.3	1	9.7	10.0	3
159	MD	2.3	2	39.0	68.4	76
160	CA	2.3	1	5.0	10.1	103
161	VA	2.3	1	0.5	1.0	103
162	NH	2.3	1	62.9	127.9	103
163	TX	2.3	1	28.3	57.5	103
164	FL	2.3	3	44.7	95.3	113
165	CA	2.3	1	84.6	237.9	181
166	NY	2.3	1	1.0	2.7	181
167	CA	2.3	1	101.6	285.5	181
168	CA	2.3	2	0.3	2.1	691
169	MN	2.3	1	0.3	4.0	1,302
170	MA	2.3	1	0.1	0.8	1,302
171	NY	2.4	1	42.7	11.2	–74
172	TX	2.4	1	5.4	1.4	–74
173	GA	2.4	1	1.5	0.5	–66
174	CA	2.4	1	17.1	6.9	–60
175	MD	2.4	2	33.9	60.1	78
176	MA	2.4	1	1.1	2.3	114
177	NH	2.4	2	6.7	62.4	831
178	NY	2.5	1	53.0	0.0	–100
179	CA	2.5	1	22.0	0.0	–100
180	NY	2.5	1	3.7	1.3	–66

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
181	TX	2.5	2	16.5	167.3	911
182	MD	2.5	1	15.5	165.1	965
183	NH	2.5	1	15.5	165.1	965
184	CO	2.6	1	24.8	0.0	-100
185	CA	2.6	1	5.4	0.3	-95
186	FL	2.6	1	10.5	2.7	-74
187	NY	2.6	1	3.7	1.3	-66
188	NJ	2.6	2	11.2	4.2	-62
189	CA	2.6	1	8.6	3.5	-60
190	VA	2.6	2	9.7	4.8	-50
191	NM	2.6	4	64.7	35.0	-46
192	CA	2.6	1	2.5	2.5	3
193	CA	2.6	1	3.6	7.3	103
194	MN	2.6	1	1.0	2.1	103
195	TX	2.6	1	3.6	7.4	103
196	NY	2.6	1	16.4	46.1	181
197	AZ	2.6	1	6.1	17.2	181
198	NY	2.7	1	1.1	2.3	114
199	VA	2.7	1	2.1	4.5	114
200	TX	2.7	1	1.1	2.3	114
201	OH	2.8	1	5.1	0.0	-100
202	CA	2.8	1	0.7	0.0	-95
203	WI	2.8	1	2.3	0.2	-92
204	CA	2.8	1	7.6	2.6	-66
205	CA	2.8	1	30.6	10.5	-66
206	CA	2.8	1	7.6	2.6	-66
207	CA	2.8	1	7.6	2.6	-66
208	CA	2.8	1	7.6	2.6	-66
209	CA	2.8	1	61.1	20.9	-66
210	CA	2.8	1	7.6	2.6	-66
211	CA	2.8	1	30.6	10.5	-66
212	MA	2.8	1	0.9	0.3	-66
213	OH	2.8	1	18.8	6.4	-66
214	KS	2.8	1	1.4	0.5	-66
215	NY	2.8	1	3.7	1.3	-66
216	TX	2.8	1	4.6	1.6	-66
217	CO	2.8	1	1.6	0.5	-66
218	TX	2.8	1	4.6	1.6	-66
219	NJ	2.8	1	2.4	0.8	-66
220	OH	2.8	1	18.8	6.4	-66
221	NJ	2.8	1	2.4	0.8	-66
222	MA	2.8	1	0.9	0.3	-66
223	MA	2.8	1	0.9	0.3	-66
224	MA	2.8	1	0.9	0.3	-66
225	MA	2.8	1	0.9	0.3	-66

TABLE B-3

Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
226	NY	2.8	1	3.7	1.3	-66
227	TX	2.8	1	4.6	1.6	-66
228	MN	2.8	1	9.2	3.1	-66
229	FL	2.8	1	3.1	1.0	-66
230	MA	2.8	1	0.9	0.3	-66
231	NH	2.8	1	0.1	0.0	-66
232	CA	2.8	1	0.4	0.1	-66
233	NH	2.8	1	0.1	0.0	-66
234	NJ	2.8	1	0.1	0.0	-66
235	CA	2.8	4	419.1	161.5	-61
236	ISRAEL	2.8	1	11.0	4.4	-60
237	NJ	2.8	2	25.7	15.8	-38
238	MD	2.8	3	9.5	7.3	-23
239	CAN	2.8	2	2.2	3.5	57
240	NH	2.8	2	10.7	21.7	102
241	FL	2.8	1	6.1	12.3	103
242	UK	2.8	1	2.5	5.1	103
243	MN	2.8	1	1.1	2.3	114
244	MN	2.8	1	7.0	74.1	965
245	NY	2.8	1	5.6	60.1	965
246	CA	2.8	1	0.6	6.5	965
247	WI	2.8	1	0.1	1.7	1,302
248	GER	2.8	1	0.1	1.2	1,302
249	OH	3.1	2	279.9	67.9	-76
250	CT	3.1	3	786.5	368.0	-53
251	AZ	3.1	3	17.1	16.5	-4
252	IN	3.1	3	36.3	37.1	2
253	MA	3.1	7	718.0	1,161.9	62
254	FL	3.1	2	3.8	40.5	956
255	ITALY	3.2	1	16.5	0.0	-100
256	CT	3.2	1	5.6	0.0	-100
257	MA	3.2	1	2.7	0.2	-92
258	CT	3.2	2	8.5	0.8	-91
259	CA	3.2	1	30.6	10.5	-66
260	MA	3.2	1	0.9	0.3	-66
261	CT	3.2	1	0.8	0.3	-66
262	NY	3.2	1	3.7	1.3	-66
263	NY	3.2	2	3.9	3.1	-19
264	AZ	3.2	1	2.4	2.5	3
265	CT	3.2	1	1.8	1.8	3
266	CT	3.2	3	15.0	25.4	69
267	CT	3.2	1	0.1	1.3	1,302
268	CA	3.2	1	0.4	6.2	1,302
269	PA	3.2	1	0.0	0.7	1,302
270	IL	3.2	1	0.1	1.5	1,302

TABLE B-3
Plant-Level Impact, Sorted by Work Breakdown Structure (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
271	IL	3.2	1	0.6	8.7	1,302
272	VT	4.1	3	37.8	31.5	–17
273	IA	4.1	1	0.1	1.4	1,302
274	NY	4.2	1	1.1	2.3	103
275	NJ	4.2	1	1.4	2.8	103
276	CA	4.2	2	3.7	11.9	222
277	CA	4.2	1	0.1	1.4	1,302
278	CA	4.4	1	7.6	2.6	–66
279	CT	4.4	1	0.8	0.3	–66
280	CT	4.4	1	0.8	0.3	–66
281	CO	4.4	1	1.6	0.5	–66
282	CA	4.4	2	1.2	2.2	85
283	NJ	4.4	1	0.1	0.9	1,302
284	NJ	4.4	1	0.1	1.1	1,302
285	NY	5.1	1	2.9	3.0	3
286	MD	5.2	1	1.1	0.4	–66
287	CT	5.2	1	0.8	0.3	–66
288	MN	5.2	1	9.2	3.1	–66
289	TX	5.2	1	0.3	0.1	–66
290	OK	5.2	1	5.4	15.2	181
291	NY	5.2	1	0.0	0.1	181
292	CA	5.2	1	16.2	45.4	181
293	WA	5.2	1	1.4	4.2	207
294	WA	5.3	1	4.6	1.6	–66
295	CA	5.5	1	0.4	0.4	3
296	–	999	Ignore	Ignore	Ignore	Ignore
Total			–	12,415.3	12,719.6	2

TABLE B-4

Plant-Level Impact, Sorted by Location

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
1	–	1.1	1	0.5	1.5	207
2	CAN	1.1	1	0.9	2.6	181
3	CAN	1.1	1	4.0	11.2	181
4	CAN	1.5	1	0.4	1.3	207
5	CAN	1.6	1	0.4	0.0	–95
6	CAN	1.8	1	6.0	16.9	181
7	CAN	2.1	1	2.1	0.2	–92
8	CAN	2.1	1	17.5	49.2	181
9	CAN	2.8	2	2.2	3.5	57
10	GER	2.8	1	0.1	1.2	1,302
11	ISRAEL	1.8	1	9.5	3.8	–60
12	ISRAEL	2.8	1	11.0	4.4	–60
13	ITALY	3.2	1	16.5	0.0	–100
14	UK	1.7	1	0.6	1.2	103
15	UK	1.8	1	0.3	1.0	207
16	UK	2.8	1	2.5	5.1	103
17	AL	2.1	1	1.6	4.5	181
18	AZ	1	1	22.0	307.9	1,302
19	AZ	1.6	5	28.1	8.6	–69
20	AZ	1.6	2	4.4	3.5	–19
21	AZ	1.6	1	1.1	2.3	114
22	AZ	1.7	1	0.3	3.8	1,302
23	AZ	2.1	1	1.6	3.2	103
24	AZ	2.2	2	24.7	24.6	–1
25	AZ	2.6	1	6.1	17.2	181
26	AZ	3.1	3	17.1	16.5	–4
27	AZ	3.2	1	2.4	2.5	3
28	CA	1	1	990.4	339.0	–66
29	CA	1	4	61.6	35.1	–43
30	CA	1	1	362.3	1018.5	181
31	CA	1.1	1	3.5	10.7	207
32	CA	1.1	1	3.2	44.8	1,302
33	CA	1.4	1	0.3	0.0	–95
34	CA	1.4	1	5.6	1.5	–74
35	CA	1.4	3	31.5	12.2	–61
36	CA	1.4	1	0.6	1.7	181
37	CA	1.4	1	0.2	0.5	181
38	CA	1.4	3	9.8	33.6	242
39	CA	1.5	1	0.2	2.4	1,302
40	CA	1.6	1	1.2	0.1	–95
41	CA	1.6	1	7.6	2.6	–66
42	CA	1.6	3	12.7	5.5	–57
43	CA	1.6	3	66.3	55.3	–17
44	CA	1.6	1	4.3	8.7	103
45	CA	1.7	1	33.8	1.7	–95

TABLE B-4
Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
46	CA	1.7	1	0.2	0.0	-95
47	CA	1.7	3	9.2	6.5	-30
48	CA	1.7	2	2.7	2.2	-17
49	CA	1.7	1	31.0	87.1	181
50	CA	1.8	1	7.7	0.4	-95
51	CA	1.8	1	2.9	0.2	-92
52	CA	1.8	1	7.6	2.6	-66
53	CA	1.8	1	7.6	2.6	-66
54	CA	1.8	1	0.1	0.3	181
55	CA	2	1	9.2	9.5	3
56	CA	2.1	1	30.6	10.5	-66
57	CA	2.1	1	7.6	2.6	-66
58	CA	2.1	1	36.5	74.2	103
59	CA	2.2	1	30.6	10.5	-66
60	CA	2.2	1	30.6	10.5	-66
61	CA	2.2	3	26.5	42.6	61
62	CA	2.3	1	2.6	0.1	-95
63	CA	2.3	1	13.8	5.5	-60
64	CA	2.3	1	9.7	10.0	3
65	CA	2.3	1	5.0	10.1	103
66	CA	2.3	1	84.6	237.9	181
67	CA	2.3	1	101.6	285.5	181
68	CA	2.3	2	0.3	2.1	691
69	CA	2.4	1	17.1	6.9	-60
70	CA	2.5	1	22.0	0.0	-100
71	CA	2.6	1	5.4	0.3	-95
72	CA	2.6	1	8.6	3.5	-60
73	CA	2.6	1	2.5	2.5	3
74	CA	2.6	1	3.8	7.3	103
75	CA	2.8	1	0.7	0.0	-95
76	CA	2.8	1	7.6	2.6	-66
77	CA	2.8	1	30.6	10.5	-66
78	CA	2.8	1	7.6	2.6	-66
79	CA	2.8	1	7.6	2.6	-66
80	CA	2.8	1	7.6	2.6	-66
81	CA	2.8	1	61.1	20.9	-66
82	CA	2.8	1	7.6	2.6	-66
83	CA	2.8	1	30.6	10.5	-66
84	CA	2.8	1	0.4	0.1	-66
85	CA	2.8	4	419.1	161.5	-61
86	CA	2.8	1	0.6	6.5	965
87	CA	3.2	1	30.6	10.5	-66
88	CA	3.2	1	0.4	6.2	1,302
89	CA	4.2	2	3.7	11.9	222
90	CA	4.2	1	0.1	1.4	1,302

TABLE B-4
Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
91	CA	4.4	1	7.6	2.6	-66
92	CA	4.4	2	1.2	2.2	85
93	CA	5.2	1	16.2	45.4	181
94	CA	5.5	1	0.4	0.4	3
95	CO	2.2	1	5.6	0.0	-100
96	CO	2.2	1	0.5	1.5	181
97	CO	2.3	1	3.1	1.1	-66
98	CO	2.6	1	24.8	0.0	-100
99	CO	2.8	1	1.6	0.5	-66
100	CO	4.4	1	1.6	0.5	-66
101	CT	1	4	451.8	194.0	-57
102	CT	1.3	3	9.7	27.1	179
103	CT	1.4	1	0.8	0.3	-66
104	CT	1.4	1	0.8	0.3	-66
105	CT	1.4	3	2.8	3.1	11
106	CT	1.6	1	0.8	0.3	-66
107	CT	1.7	1	11.5	1.0	-92
108	CT	1.8	1	0.8	0.3	-66
109	CT	1.8	1	0.8	0.3	-66
110	CT	1.8	1	0.8	0.3	-66
111	CT	1.8	1	0.8	0.3	-66
112	CT	2.2	1	1.0	10.1	965
113	CT	2.3	2	9.7	2.7	-72
114	CT	2.3	1	3.6	3.7	3
115	CT	3.1	3	786.5	368.0	-53
116	CT	3.2	1	5.6	0.0	-100
117	CT	3.2	2	8.5	0.8	-91
118	CT	3.2	1	0.8	0.3	-66
119	CT	3.2	1	1.8	1.8	3
120	CT	3.2	3	15.0	25.4	69
121	CT	3.2	1	0.1	1.3	1,302
122	CT	4.4	1	0.8	0.3	-66
123	CT	4.4	1	0.8	0.3	-66
124	CT	5.2	1	0.8	0.3	-66
125	FL	2.2	1	8.7	8.9	3
126	FL	2.3	3	44.7	95.3	113
127	FL	2.6	1	10.5	2.7	-74
128	FL	2.8	1	3.1	1.0	-66
129	FL	2.8	1	6.1	12.3	103
130	FL	3.1	2	3.8	40.5	956
131	GA	1	2	238.7	703.2	195
132	GA	2.2	1	10.7	0.0	-100
133	GA	2.4	1	1.5	0.5	-66
134	IA	2.1	6	38.0	29.2	-23

TABLE B-4
Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
135	IA	2.1	1	1.1	2.3	114
136	IA	2.2	1	0.3	0.0	-100
137	IA	4.1	1	0.1	1.4	1,302
138	IL	1.2	1	0.4	1.2	207
139	IL	1.6	4	1,03.7	41.3	-60
140	IL	1.7	1	4.3	1.5	-66
141	IL	1.8	1	4.3	12.0	181
142	IL	3.2	1	0.1	1.5	1,302
143	IL	3.2	1	0.6	8.7	1,302
144	IN	1.5	1	2.2	6.3	181
145	IN	2.1	2	7.3	2.1	-71
146	IN	3.1	3	36.3	37.1	2
147	KS	1.2	1	4.1	12.6	207
148	KS	2.8	1	1.4	0.5	-66
149	KY	1.6	1	0.0	0.0	-66
150	MA	1.7	1	0.0	0.1	181
151	MA	2.2	1	0.0	0.1	181
152	MA	2.3	1	0.1	0.8	1,302
153	MA	2.4	1	1.1	2.3	114
154	MA	2.8	1	0.9	0.3	-66
155	MA	2.8	1	0.9	0.3	-66
156	MA	2.8	1	0.9	0.3	-66
157	MA	2.8	1	0.9	0.3	-66
158	MA	2.8	1	0.9	0.3	-66
159	MA	2.8	1	0.9	0.3	-66
160	MA	3.1	7	718.0	1161.9	62
161	MA	3.2	1	2.7	0.2	-92
162	MA	3.2	1	0.9	0.3	-66
163	MD	2.2	1	1,72.5	69.3	-60
164	MD	2.3	2	39.0	68.4	76
165	MD	2.4	2	33.9	60.1	78
166	MD	2.5	1	15.5	165.1	965
167	MD	2.8	3	9.5	7.3	-23
168	MD	5.2	1	1.1	0.4	-66
169	MI	1.2	1	0.1	0.3	207
170	Mi	1.4	3	25.5	28.5	12
171	MI	1.4	1	0.2	0.7	181
172	MI	1.4	1	7.6	21.5	181
173	MI	1.8	1	43.1	11.3	-74
174	MI	2.2	1	3.6	1.2	-66
175	MN	1.4	1	0.4	0.4	3
176	MN	1.8	2	2.5	2.4	-4
177	MN	2.2	1	2.6	7.2	181
178	MN	2.3	1	0.3	4.0	1,302
179	MN	2.8	1	1.0	2.1	103

TABLE B-4

Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
180	MN	2.8	1	9.2	3.1	-66
181	MN	2.8	1	1.1	2.3	114
182	MN	2.8	1	7.0	74.1	965
183	MN	5.2	1	9.2	3.1	-66
184	MO	1	3	1,826.8	2511.0	37
185	MO	1.6	1	0.3	0.8	181
186	MO	1.7	1	2.5	7.0	181
187	MS	1.7	1	2.0	5.5	181
188	NC	1.8	1	0.2	0.4	103
189	NH	2.1	1	4.4	8.9	103
190	NH	2.3	1	62.9	127.9	103
191	NH	2.4	2	6.7	62.4	831
192	NH	2.5	1	15.5	165.1	965
193	NH	2.8	1	0.1	0.0	-66
194	NH	2.8	1	0.1	0.0	-66
195	NH	2.8	2	10.7	21.7	102
196	NJ	1.4	1	1.0	2.0	103
197	NJ	1.6	1	0.0	0.0	-66
198	NJ	1.6	1	0.1	1.2	1,302
199	NJ	1.7	2	3.5	0.9	-75
200	NJ	1.8	1	2.4	0.8	-66
201	NJ	2.2	1	2.4	0.8	-66
202	NJ	2.6	2	11.2	4.2	-62
203	NJ	2.8	1	2.4	0.8	-66
204	NJ	2.8	1	2.4	0.8	-66
205	NJ	2.8	1	0.1	0.0	-66
206	NJ	2.8	2	25.7	15.8	-38
207	NJ	4.2	1	1.4	2.8	103
208	NJ	4.4	1	0.1	0.9	1,302
209	NJ	4.4	1	0.1	1.1	1,302
210	NM	2.6	4	64.7	35.0	-46
211	NY	1	4	514.3	239.7	-53
212	NY	1.4	2	24.4	6.7	-73
213	NY	1.4	1	3.7	1.3	-66
214	NY	1.4	1	0.9	2.5	181
215	NY	1.6	1	0.4	0.0	-95
216	NY	1.6	1	3.7	1.3	-66
217	NY	1.6	1	3.7	1.3	-66
218	NY	1.6	2	3.9	2.9	-25
219	NY	1.6	1	0.1	0.2	103
220	NY	1.7	1	24.7	6.5	-74
221	NY	1.7	1	14.2	3.7	-74
222	NY	1.7	3	7.0	5.4	-23
223	NY	1.8	1	5.0	0.0	-100

TABLE B-4
Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
224	NY	1.8	1	3.7	1.3	-66
225	NY	1.8	1	3.7	1.3	-66
226	NY	1.8	1	3.7	1.3	-66
227	NY	1.8	1	3.7	1.3	-66
228	NY	1.8	1	0.1	1.4	1,302
229	NY	2	1	30.6	65.4	114
230	NY	2.1	1	0.1	0.0	-100
231	NY	2.1	1	1.1	2.3	114
232	NY	2.2	2	25.2	1.3	-95
233	NY	2.3	1	1.0	2.7	181
234	NY	2.4	1	42.7	11.2	-74
235	NY	2.5	1	53.0	0.0	-100
236	NY	2.5	1	3.7	1.3	-66
237	NY	2.6	1	3.7	1.3	-66
238	NY	2.6	1	16.4	46.1	181
239	NY	2.7	1	1.1	2.3	114
240	NY	2.8	1	3.7	1.3	-66
241	NY	2.8	1	3.7	1.3	-66
242	NY	2.8	1	5.6	60.1	965
243	NY	3.2	1	3.7	1.3	-66
244	NY	3.2	2	3.9	3.1	-19
245	NY	4.2	1	1.1	2.3	103
246	NY	5.1	1	2.9	3.0	3
247	NY	5.2	1	0.0	0.1	181
248	OH	1.4	1	3.9	0.3	-92
249	OH	1.5	1	3.1	1.2	-60
250	OH	1.5	1	1.1	2.3	114
251	OH	1.5	1	0.0	0.0	181
252	OH	1.5	2	16.7	48.6	191
253	OH	1.6	1	26.5	1.3	-95
254	OH	1.6	1	12.8	5.1	-60
255	OH	2.8	1	5.1	0.0	-100
256	OH	2.8	1	18.8	6.4	-66
257	OH	2.8	1	18.8	6.4	-66
258	OH	3.1	2	279.9	67.9	-76
259	OK	5.2	1	5.4	15.2	181
260	PA	2	1	67.0	69.0	3
261	PA	3.2	1	0.0	0.7	1,302
262	RI	1.7	1	0.3	0.8	181
263	TN	1.3	1	1.1	3.4	207
264	TX	1	2	1,729.3	1083.5	-37
265	TX	1.1	2	323.0	324.4	0
266	TX	1.5	1	23.3	9.3	-60
267	TX	1.5	1	2.1	4.2	103
268	TX	1.7	1	2.0	0.8	-60

TABLE B-4
Plant-Level Impact, Sorted by Location (Continued)

Plant	State	WBS	Number of programs	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)
269	TX	1.8	1	0.3	0.1	-66
270	TX	2.1	1	4.6	1.6	-66
271	TX	2.3	1	28.3	57.5	103
272	TX	2.4	1	5.4	1.4	-74
273	TX	2.5	2	16.5	167.3	911
274	TX	2.6	1	3.6	7.4	103
275	TX	2.7	1	1.1	2.3	114
276	TX	2.8	1	4.6	1.6	-66
277	TX	2.8	1	4.6	1.6	-66
278	TX	2.8	1	4.6	1.6	-66
279	TX	5.2	1	0.3	0.1	-66
280	UT	1.1	1	1.0	0.4	-66
281	VA	1.8	2	5.6	5.8	3
282	VA	2.3	1	0.5	1.0	103
283	VA	2.6	2	9.7	4.8	-50
284	VA	2.7	1	2.1	4.5	114
285	VT	1.8	2	0.8	1.8	121
286	VT	1.8	1	0.2	0.5	207
287	VT	4.1	3	37.8	31.5	-17
288	WA	1	1	236.7	485.1	103
289	WA	1.1	1	672.5	230.2	-66
290	WA	1.6	2	6.2	6.2	0
291	WA	2	1	7.8	8.0	3
292	WA	5.2	1	1.4	4.2	207
293	WA	5.3	1	4.6	1.6	-66
294	WI	2.8	1	2.3	0.2	-92
295	WI	2.8	1	0.1	1.7	1,302
296	–	999	Ignore	Ignore	Ignore	Ignore
Total			–	12,415.3	12,719.6	2

TABLE B-5

Company-Level Impact, Sorted by Change in Revenue

Company	Number of plant locations	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)	Number of plants losing all business
1	1	16.53	0	-100.00	1
2	1	0.26	0.01	-194.98	0
3	1	0.35	0.02	-94.98	0
4	1	7.71	0.39	-94.98	0
5	1	0.23	0.01	-94.98	0
6	1	0.75	0.04	-94.98	0
7	1	2.27	0.19	-91.73	0
8	1	8.46	0.76	-91.07	0
9	3	26.35	3.53	-86.58	1
10	4	80.54	11.18	-86.12	3
11	1	24.71	6.47	-73.83	0
12	1	5.63	1.47	-73.83	0
13	1	5.39	1.41	-73.83	0
14	1	24.42	6.69	-72.60	0
15	1	9.71	2.67	-72.49	0
16	1	7.35	2.11	-71.34	0
17	1	1.05	0.36	-65.78	0
18	1	0.92	0.31	-65.78	0
19	1	2.41	0.83	-65.78	0
20	1	0.79	0.27	-65.78	0
21	1	0.79	0.27	-65.78	0
22	1	3.74	1.28	-65.78	0
23	1	0.79	0.27	-65.78	0
24	1	18.78	6.43	-65.78	0
25	1	0.79	0.27	-65.78	0
26	1	0.31	0.1	-65.78	0
27	1	0.79	0.27	-65.78	0
28	1	3.74	1.28	-65.78	0
29	1	3.74	1.28	-65.78	0
30	1	7.64	2.62	-65.78	0
31	1	0.05	0.02	-65.78	0
32	1	0.79	0.27	-65.78	0
33	1	4.59	1.57	-65.78	0
34	1	3.74	1.28	-65.78	0
35	1	0.79	0.27	-65.78	0
36	1	3.74	1.28	-65.78	0
37	1	4.32	1.48	-65.78	0
38	1	1.55	0.53	-65.78	0
39	1	3.74	1.28	-65.78	0
40	1	0.79	0.27	-65.78	0
41	1	0.79	0.27	-65.78	0
42	1	7.64	2.62	-65.78	0
43	1	0.43	0.15	-65.78	0
44	1	1.56	0.53	-65.78	0
45	1	3.74	1.28	-65.78	0
46	1	30.57	10.46	-65.78	0
47	1	0.92	0.31	-65.78	0

TABLE B-5

Company-Level Impact, Sorted by Change in Revenue (Continued)

Company	Number of plant locations	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)	Number of plants losing all business
48	1	0.79	0.27	-65.78	0
49	1	30.57	10.46	-65.78	0
50	1	7.64	2.62	-65.78	0
51	1	2.41	0.83	-65.78	0
52	1	0.01	0	-65.78	0
53	1	0.05	0.02	-65.78	0
54	1	3.74	1.28	-65.78	0
55	1	18.78	6.43	-65.78	0
56	1	2.41	0.83	-65.78	0
57	1	0.92	0.31	-65.78	0
58	1	0.92	0.31	-65.78	0
59	1	0.92	0.31	-65.78	0
60	1	0.92	0.31	-65.78	0
61	1	3.74	1.28	-65.78	0
62	1	7.64	2.62	-65.78	0
63	1	1.56	0.53	-65.78	0
64	1	7.64	2.62	-65.78	0
65	1	7.64	2.62	-65.78	0
66	1	7.64	2.62	-65.78	0
67	1	0.04	0.01	-65.78	0
68	1	3.74	1.28	-65.78	0
69	1	3.59	1.23	-65.78	0
70	1	0.79	0.27	-65.78	0
71	1	0.05	0.02	-65.78	0
72	1	9.17	3.14	-65.78	0
73	1	0.92	0.31	-65.78	0
74	1	0.31	0.1	-65.78	0
75	1	4.59	1.57	-65.78	0
76	1	30.57	10.46	-65.78	0
77	4	39.92	14.32	-64.12	0
78	2	1.05	0.4	-61.58	0
79	1	31.47	12.15	-61.38	0
80	1	11.04	4.43	-59.86	0
81	1	13.8	5.54	-59.86	0
82	1	3.11	1.25	-59.86	0
83	1	9.49	3.81	-59.86	0
84	1	17.08	6.86	-59.86	0
85	1	1.98	0.8	-59.86	0
86	2	116.33	46.76	-59.81	0
87	2	5.94	2.52	-57.53	1
88	6	1271.75	629.92	-50.47	0
89	3	12.03	6.79	-43.51	1
90	2	519.96	299.87	-42.33	0
91	1	25.7	15.83	-38.40	0
92	2	1,759.91	1,093.92	-37.84	0
93	3	224.27	142.81	-36.32	0
94	4	25.96	17.31	-33.32	0

TABLE B-5

Company-Level Impact, Sorted by Change in Revenue (Continued)

Company	Number of plant locations	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)	Number of plants losing all business
95	6	91.76	64.29	-29.94	0
96	1	9.2	6.46	-29.76	0
97	4	42.95	32.16	-25.12	1
98	1	3.85	2.9	-24.65	0
99	12	129.3	98.17	-24.07	0
100	1	9.46	7.31	-22.73	0
101	1	7.02	5.43	-22.66	0
102	2	13.46	10.56	-21.55	0
103	5	987.34	792.8	-19.70	0
104	4	550.42	455.26	-17.29	0
105	1	2.69	2.22	-17.20	0
106	2	3.97	3.34	-15.99	0
107	2	4.38	3.71	-15.19	0
108	4	114.51	107.25	-6.35	0
109	5	118.14	116.56	-1.34	0
110	1	24.71	24.56	-0.60	0
111	1	6.24	6.22	-0.32	0
112	3	6.1	6.09	-0.24	0
113	3	1,355.32	1,357.6	0.17	0
114	1	322.96	324.4	0.44	0
115	1	36.31	37.09	2.17	0
116	1	2.39	2.47	3.07	0
117	1	2.94	3.03	3.07	0
118	1	1.79	1.85	3.07	0
119	1	0.37	0.38	3.07	0
120	1	25.55	28.53	11.68	0
121	9	1,118.5	1,315.57	17.62	1
122	3	3.89	4.84	24.37	0
123	3	14.76	21.35	44.66	0
124	4	51.42	75.21	46.27	0
125	5	1,916.87	2,872.21	49.84	0
126	6	33.82	57.18	69.05	0
127	4	10.49	19.05	81.64	0
128	1	1.15	2.33	103.21	0
129	1	0.19	0.38	103.21	0
130	1	1.59	3.23	103.21	0
131	1	0.6	1.22	103.21	0
132	1	44.73	95.31	113.08	0
133	1	1.05	2.26	114.05	0
134	1	1.05	2.26	114.05	0
135	1	1.05	2.26	114.05	0
136	1	1.05	2.26	114.05	0
137	2	12.81	28.16	119.72	0
138	1	0.8	1.78	121.03	0
139	2	13.7	33.92	147.52	0
140	7	109.39	278.96	155.02	2
141	1	0.24	0.68	181.11	0

TABLE B-5

Company-Level Impact, Sorted by Change in Revenue (Continued)

Company	Number of plant locations	Revenue ($ millions) FY91	Revenue ($ millions) FY97	Change (percent)	Number of plants losing all business
142	1	5.41	15.2	181.11	0
143	1	6.01	16.89	181.11	0
144	1	0.62	1.73	181.11	0
145	1	0.29	0.82	181.11	0
146	1	0.96	2.7	181.11	0
147	1	0.92	2.59	181.11	0
148	1	101.56	285.5	181.11	0
149	1	0.02	0.05	181.11	0
150	1	0.27	0.76	181.11	0
151	1	17.49	49.17	181.11	0
152	1	0.16	0.46	181.11	0
153	1	1.62	4.54	181.11	0
154	1	1.95	5.49	181.11	0
155	1	0.05	0.13	181.11	0
156	2	24.34	70.07	187.91	0
157	1	238.73	703.2	194.55	0
158	8	138.17	407.31	194.79	0
159	1	0.09	0.29	206.95	0
160	1	4.09	12.57	206.95	0
161	1	0.32	1	206.95	0
162	1	3.5	10.73	206.95	0
163	1	0.49	1.49	206.95	0
164	1	1.35	4.15	206.95	0
165	1	0.38	1.18	206.95	0
166	1	0.16	0.5	206.95	0
167	2	4.82	15.33	218.18	0
168	5	50.06	235.96	371.38	0
169	2	9.53	81.31	753.28	0
170	1	0.95	10.12	965.46	0
171	1	0.1	1.4	1,301.64	0
172	1	0.1	1.46	1,301.65	0
173	1	0.12	1.65	1,301.65	0
174	1	0.08	1.06	1,301.65	0
175	1	0.44	6.16	1,301.65	0
176	1	0.1	1.43	1,301.65	0
177	1	0.09	1.26	1,301.65	0
178	1	0.27	3.75	1,301.65	0
179	1	0.08	1.18	1,301.65	0
180	1	0.05	0.67	1,301.66	0
181	1	0.05	0.76	1,301.66	0